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REPORTS
OF
CASES ARISING UNDER
LETTERS PATENT
FOR INVENTIONS,
DETERMINED IN THE

Circuit Courts of the United States.

By SAMUEL S. FISHER,
Counselor at Law.

VOLUME V.

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JUDGES
OF THE
COURTS OF THE UNITED STATES

Whose Opinions are reported in this Volume.

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CASES
ARISING UPON LETTERS PATENT FOR INVENTIONS,
DETERMINED
— IN THE —
COURTS OF THE UNITED STATES.

EDMUND H. GRAHAM AND WANTON ROUSE

vs.

WILLIAM MASON. IN EQUITY.

As the letters patent, when introduced in evidence, are presumed to be valid until the contrary is shown, the issue of the novelty of the alleged invention, whether tendered by the defendant in a suit in equity or an action at law, ought to be clearly expressed and unconditional.

Conditional denials of the novelty of an invention are not regular; the denial should be explicit and unqualified.

Pleadings in equity, as well as in actions at law, should be single, clear, and free of evasion. More than one defense may be presented in the answer, but each should be separately and clearly alleged, without any conditions or undefined qualifications.

Before it can be ascertained whether the claims of the patent in any given case cover what was made and used and sold by the respondent, it always becomes necessary to construe the letters patent.

Persons charged with infringement may set up the defense that the patentee was not the original and first inventor of the alleged improvement, but in that event they must allege in the answers, if the suit is

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in equity, the names and places of residence of those whom they intend to prove to have possessed a prior knowledge of the thing, and where the same had been used.

Objections on account of the defect of failing to name places and persons in the answer, ought, in general, to be taken by exceptions, as it is the proper subject of amendment under special orders.

If a device is new in itself, it must be described and claimed as such. A claim for it, in combination with other parts of the machine, can not be so construed as to import the novelty of the device separately considered.

Where a suggestion in a prior patent was claimed to embrace the patented invention:

Held, that such suggestion must not be ambiguous.

Such a suggestion would be in itself insufficient to defeat a subsequent patent, without proof that the suggested device was made before the invention of the patentee.

In the absence of fraud, the defense that the reissued letters patent are not for the same invention as that described in the original letters patent, is not open to one charged as an infringer, except in cases where the fact appears by a comparison of the two patents, as matter of law.

Infringement depends not so much upon the form of the particular device in question, or upon the name given to it in the specification, as upon the functions it performs.

It is well-settled law that if one device is employed in a similar combination as another, and performs the same function in the same way, the two are substantially the same, although they may be different in form, and may be known among mechanics by different names.

Letters patent for "improvement in picker-staff motion for looms," granted to E. H. Graham, October 16, 1860, and reissued May 28, 1867, examined and sustained.

(Before CLIFFORD and LOWELL, JJ., District of Massachusetts, May, 1869.)

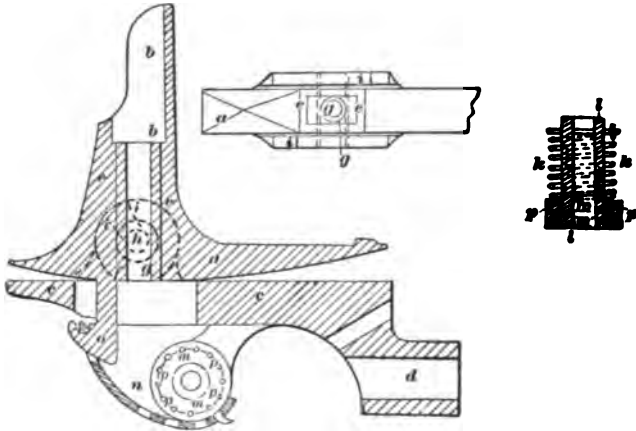
FINAL hearing upon pleadings and proofs.

Suit brought upon letters patent for an "improvement in picker-staff motion for looms," granted Edmund H. Graham, October 16, 1860, and reissued October 2, 1866. An undivided half having been assigned to Wanton Rouse, the letters patent were again reissued to complainants May 28, 1867.

The object of the improvement was to produce an accurate and sure motion for picker-staffs, by a combination of devices which, while giving great accuracy of motion, so guides and holds the picker-staff as to cause it to operate with the least possible friction and lateral disarrangement or wobbling,

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In the accompanying drawing, the left hand figure represents a vertical central longitudinal section through so much of a picker-staff and its appurtenances, embracing said improvements, as is necessary to illustrate the invention.



The right hand figure represents a central longitudinal horizontal section through the retracting spring of the picker-staff and its cylinder.

The middle figure is a plan or top-view of fig. 1.

In these figures, *a a* represent a curved rocker, in the socket *b b*, of which the picker-staff is to be fastened. The rocker *a a* plays upon a horizontal bed *c c*, having a socket, *d*, through which the shaft of the loom passes in the usual way. The shank *e e* of the rocker *a a* is made hollow, or with a suitable box or bearing, *f f*, into which a shaft-arm or bar, *g g*, is inserted, which arm, by means of journals projecting each side thereof, has a bearing in the eyes *i i*, formed in the bed-piece *c c*. By this arrangement the rocker (in its reciprocating movement) is kept perfectly true in its bearings by the arm or bar *g g*, which holds the rocker *a a* truly in position, in consequence of its long bearing therein; and as the arm or bar *g g* also oscillates freely upon its journals, *h h*, which further serve to steady the rocker laterally, the rocker moves with the least possible friction, and with the greatest accuracy, so that the wear and tear is necessarily but very slight. The eyes or bearings *i* have inclined slots (shown in dotted lines in fig. 1) cut in them, so as to form ears or open

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boxes, in which the journals *h h* are inserted when the parts of the picker-motion are put together. By this means the shaft or arm *g*, and its journals *h*, can readily be removed and replaced, and are free to play without liability to work out of their bearings. The rocker *a a* is retracted by means of a spiral spring, *k k*, wound loosely around a short shaft, *l*, and attached at one end to a plate, *m*, which turns freely on the shaft *l*. A strap, *n*, attached to the plate *m*, fits over a hook, *o*, on the under side of the rocker *a a*. As the spring *k k* is liable to partially lose its force by the motions of the rocker *a a*, this contingency is provided for by forming in the plate *m* a series of holes, *p p*, into which successively one end of the spring *k k* is set, as fast as it loses its elastic force, whereby the spring can be set up at pleasure, and its force graduated, without the necessity of frequent repairing or renewals.

The claims of the original and reissued patents were as follows :

Original patent :

"The arrangement of the rocker *a a*, and guiding shaft or bar *g g*, traveling in suitable journals or bearings, *h h*, and operating together, substantially as described."

Reissue of 1866 :

"Steadying the rocker of the picker-staff on its bed, by journals, at a right angle to the picker-staff, which journals form its center of motion substantially as described.

"Also, the journal boxes, with open ears, in combination with the journals that steady the rocker on the bed."

Reissue of 1867 :

"1. The combination of a rocker of a picker-staff with its bed, by loose journals, projecting each side of the picker-staff, and arranged beneath the picker-staff, substantially as described.

"2. In combination with the rocker, the bed, and the journals, the open boxes, substantially as and for the purpose described.

"3. In combination with the rocker and its bed, the journal-bearing arm, operating substantially as and for the purpose specified."

J. E. Maynadier, for complainants.

Benjamin Dean, for defendant.

CLIFFORD, J.

Letters patent were granted to the first-named complainant, October 16, 1860, for a new and useful improvement in picker-staff motion for looms, and the proofs show that the patentee, on

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February 26, 1861, assigned, set over, and conveyed one undivided half part of his right, title, and interest in the invention to the other complainant. Possessed of the entire interest in the invention, and holding the same jointly, the complainants, on October 2, 1866, surrendered the original letters patent, because the specification was defective, and new letters patent were issued to them, as they allege, for the same invention. Defects still existing in the description of the invention, the complainants, on May 28, 1867, surrendered the letters patent for a second time, and new letters patent were again issued to them for the same invention, but upon an amended specification. Based on these allegations as to the validity of the patent, the charge of the bill of complaint is that the respondent, since the date of the last reissued letters patent, has manufactured, used, and sold, and still continues to manufacture, use, and sell, their patented improvement, as described in the claims of their amended specification.

Respondent admits that the original letters patent were granted as alleged, and that they were twice surrendered and reissued, but he denies that they were surrendered on either occasion for the reasons assigned by the complainants. On the contrary, he charges the fact to be that both reissues were obtained with a view to claim what was never invented by the original patentee, and what he never intended to include in the original letters patent.

Express allegation of the bill of complaint is that the original patentee was the original and first inventor of the improvement in question; and strong doubts are entertained whether the answer is of a character to allow the respondent to introduce proofs to controvert that allegation.

Statement of the answer is to the effect that if the claims of the reissued letters patent shall be so construed as to cover any device or combination found in the shuttle motions made, used, or sold by the respondent, they, and each of them, were known and used before the alleged invention of the complainants. Persons sued as infringers are allowed to put in issue the novelty of the alleged invention; but the issue tendered, whether in a suit in equity or an action at law, ought to be clearly expressed and unconditional, as the letters patent, when introduced in evidence, are presumed to be valid till the contrary is shown, and if their validity is not denied in the answer or notices of special matter,

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the complainant or plaintiff, as the case may be, if he proves infringement, is entitled to recover. Conditional denials in such cases are not regular, but if the respondent intends to contest the novelty of the invention, his denial in that behalf should be explicit and unqualified.

Pleadings in equity, as well as in actions at law, should be single, clear, and free of evasion. More than one defense may be presented in the answer, but each should be separately and clearly alleged, without any conditions or undefined qualifications. Before it can be ascertained whether the claims of the patent in any given case cover what was made, used, and sold by the respondent, it always becomes necessary to construe the letters patent, and to ascertain what the respondent did make, use, and sell, within the period laid in the bill of complaint.

Persons charged as infringers may set up the defense that the patentee was not the original and first inventor of the alleged improvement, but in that event they must allege in the answer, if the suit is in equity, the names and places of residence of those whom they intend to prove to have possessed a prior knowledge of the thing, and where the same had been used. 5 Stat. at Large, 123; *Teese v. Huntington*, 23 How. 10. Such notice is required for the benefit of the complainant, to prevent surprise; but if the answer may properly be framed, as in this case, it will not serve any useful purpose, as the complainant is furnished with no means of knowing what the theory of the respondent is, as to the construction of the patent. Objections, however, on account of such defects in the answer, ought, in general, to be taken by exceptions, as they are the proper subjects of amendment, under special orders; and, in view of that circumstance, the court has concluded, in this case, to examine the defense upon the merits.

Granted, as letters patent are, by authority of law, they afford to the party holding the legal title a *prima-facie* presumption that the patentee was the original and first inventor of what is therein described as his improvement. Picker-staffs for looms must vibrate rapidly, in order to drive the shuttles with the requisite frequency; and to avoid, as far as possible, the derangement of the machinery, and the consequent necessity for frequent repairs, it is essential that the vibrations of the picker-staff forward

and back should be in a defined plane, without wobbling or lateral oscillation.

Statement of the patentees is that the means employed for that purpose, prior to the invention described in their letters patent, were very defective in the latter particular, and that the object of their improvement is to produce an accurate and sure motion of the picker-staff, by a combination of devices which will so hold and guide the same as to cause it to operate with entire accuracy, and without lateral oscillation, and with the least possible friction. Some reference to the elements of the patented invention must be made, in order that the characteristics of the improvement may be understood. Among other things, the device has a horizontal bed, constructed with a socket, through which the shaft of the loom passes in the usual way. Besides the horizontal bed, it also has a curved rocker and a picker-staff of the description set forth in the specification. The curved rocker also has a socket, and the representation is that the picker-staff is fastened in that socket, but the rocker plays on the bed, and is kept in place in part by the socket in the bed, and in part by the groove formed by the elevations in the sides of the bed opposite the socket. Connected with the rocker, and constituting a part of it, is a shank, which is made to secure the shaft-arm, which is inserted therein, and rests by means of journals projecting on each side of the same in bearings formed in the elevations of the bed as constructed on each side of the socket. By this arrangement, the rocker is kept in its bearings by the shaft-arm, and moves without much friction and with great accuracy. Inclined slots are cut in the bearings, so that the shaft and its journals can be easily removed and replaced, and are free to play without liability to work out of their true position.

Description is also given of the means employed to retract the rocker, but it is not necessary in this investigation to enter into those details.

Based on the description of the invention, as more fully given in the specification, the patentees make three claims, in substance and effect as follows: 1. The combination of the rocker of a picker-staff and its bed by loose journals, projecting on each side of the picker-staff, and arranged beneath the picker-staff, substantially as described. 2. In combination with the rocker, the bed,

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and the journals, the open boxes, substantially as described.
3. In combination with the rocker and its bed, the journal-bearing arm operating substantially as and for the purpose specified.

Evidently, the first claim is merely for a combination, and the court is of the opinion that the other two must be construed in the same way. Suggestion is made by the complainants that the journal-bearing arm is new, but it is not described as such in that part of the specification to which reference was made, and the concluding portion of specification supports the conclusion that the patentees never intended to set up any such pretensions.

They state that the first part of the invention relates to the position of the journals, and that it consists in placing the journals near the socket of the picker-staff, and as near the level of the bed as practicable, because the journals, when placed in that position, will perform their functions to the best possible advantage, and they add that no rocker, so far as they know, was ever before combined with its bed by means of such journals. In describing the second part of the invention, they say it consists in forming the bearings for the journals with such an opening that the journals may be laid in them without liability to work out in the operation of the rocker. Nothing is said about having invented any one or more of the elements of the combination, and it is not perceived that there is anything in the testimony to justify any such theory. Four patents were introduced by the respondent, as showing that the first-named complainant was not the original and first inventor of the improvement described in the patent on which this suit is founded, and they will be separately considered in the order in which they were presented at the argument.

Reference is first made by the respondent to the patent of Benjamin Lapham, as supporting the defense that the improvement in question was known and used prior to the alleged invention of the complainant, but it is evident that the two are substantially different in the most essential features of the improvement. Lapham's invention has a bed and a rocker, and they are combined by means of a journal projecting from each, but the respective journals project only from one side, instead of projecting from both sides, as in the complainants' device. Besides, the journals in the former are much shorter than in the latter, and the

arm is farther from a horizontal plane. These differences are palpable and substantial, and show that the defense of want of novelty in the complainants' patent is not sustained by anything contained in the Lapham patent. Strong doubts are entertained whether the Lapham invention is operative for any practical purpose; but it is unnecessary to express any decided opinion upon that point, as it is clear that the two inventions are substantially different in their characteristic features.

Next patent introduced by the respondent is that of Daniel Barnum, which was for an improvement in power looms. Like the patent first examined, it had a bed and a rocker, but it has neither journals nor boxes, nor a journal-bearing nor box-bearing arm. Instead of journals, it has a pin projecting from each side of the picker-staff; but it does not turn, and can not, in any legal sense, be regarded as a substitute for the loose journals in the complainants' invention.

Stearns' patent, which is the next one to be considered, is substantially the same as that of Barnum, except that he has provided a friction roller to prevent the wear of the pin; but the rocker may move without moving the roller. The pin can not properly be considered a journal, while the friction of the rocker upon the roller is greater than the friction of the roller upon the pin. The latter, to a certain extent, may perform the office of a journal, but the proofs tend to show that the reverse is true after a short use of the mechanism. Properly considered, it has no journals, open boxes, nor a journal-bearing arm, and consequently lacks one of the elements of each of the respective combinations in the patent on which the suit is founded.

Extended remark in respect to the patent of Rensselaer Reynolds is unnecessary, as he connected the rocker and the bed by means of a strap, one end of which was attached to the under face of the rocker, and the other in the groove of the bed-piece, in which the rocker plays when the mechanism is in motion. Reynolds' patent also contains a suggestion supposed to embrace the complainants' invention, but it is too ambiguous to be reliable, and if it were less so, it would be insufficient to support the issue presented by the respondent, as there is no proof that any such device was ever made before the original letters patent were granted in this case.

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Argument for the respondent also is that the reissued letters patent are not for the same invention as that described in the specification of the original letters patent. Fraud in procuring the reissues is not alleged, and the rule is that, in the absence of fraud, such a defense is not open to one charged as an infringer, except in cases where it appears, by a comparison of the two patents, as matter of law, that the reissued and original patents are not for the same invention. Nothing of the kind appears in this case, and therefore that defense must be overruled.

Complainants allege infringement, and the burden of proof is upon them to sustain the allegation. Witnesses were examined as experts by both parties, but their opinions are opposed in respect to every issue involved in the pleadings. Respondent admits that he has made and sold picker-staff motions for looms, and that he has made and sold looms containing picker-staff motions within the period laid in the bill of complaint, but he denies that he has made or sold any such, within that period, in imitation or infringement of what is described and claimed in the complainants' reissued letters patent.

Practically, the only question in the case as to infringement is, whether the model exhibited in the proofs as representing the picker-staff motions made and sold by the respondent, is substantially the same, or substantially different, from the mechanism described and claimed by the complainants as their reissued patent, as the respondent concedes that he has made and sold picker-staff motions, so called, corresponding with that exhibit. Doubtless the main purpose of the mechanism described in the reissued patent was to compel that part of the picker-staff which strikes the shuttle to move in the required plane without wobbling or lateral oscillation; and it is obvious that the device made and sold by the respondent was constructed to accomplish the same purpose in substantially the same way. Attempt is made to show that the means employed are substantially different, but the court is not able to concur in that proposition. On the contrary, we find that the mechanism of the respondent's device is substantially the same as that described in the specification of the reissued patent, and we are unable to see that the mode of operation is different in any material respect. Some of the elements of the device are different in form, but they are not new, and it is clear

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that they perform the same functions as the corresponding parts do in the complainants' device. Both devices have a curved rocker, in which the picker-staff is fastened, and both have a horizontal bed, having a socket through which the shaft of the loom passes in the usual way. In both, the shank of the rocker is made hollow to receive the shaft-arm, and the rocker plays upon the horizontal bed, and the rocker is combined with bed by loose journals, different in form, but performing the same function, in substantially the same way. Arranged, as they are, beneath the picker-staff and each side of the shank, into which the picker-staff is inserted, they prevent the staff from wobbling in the same way, and as effectually as the journals described in the complainants' patent. But the respondent denies that the device made and sold by him contained loose journals, or that he employs such means to combine the curved rocker and the horizontal bed. He admits that he employs the rocker and a bed, and that they are connected or combined; but he insists that he does not employ loose journals to accomplish that purpose.

Supported, as that theory is, by the testimony of a learned and experienced witness, it has received the attentive consideration of the court, but, in our opinion, it can not be sustained, as it is clear that the combination is the same as that described in the complainants' specification; and the particular device in question, although different in form, yet performs the same function as the device employed in the complainants' invention. Infringement depends not so much upon the form of the particular device in question, or upon the name given to it in the specification by the construction, as upon the functions it performs, and it is well-settled law that if one device is employed in a similar combination as another, and performs the same function in the same way, the two are substantially the same, although they may be different in form, and may be known among mechanics by different names.

Much of the difference of opinion between the expert witnesses may be explained by the proper application of this principle; and without pursuing the subject further, suffice it to say that by a careful comparison of the exhibits one with another, aided by the proofs in the case, our conclusion is that the charge of infringement is sustained, and that the complainants are entitled to an interlocutory decree for an account and an injunction.

Chambers v. Smith.

MARIS CHAMBERS

vs.

FREDERICK V. SMITH AND STEPHEN G. SMITH. IN
EQUITY.

A., the patentee, assigned to plaintiff all his right to and interest in a patented brick machine, except the right to manufacture said machines in the counties of Philadelphia, Pa., and Camden, N. J. The plaintiff licensed B. to use one of said machines within a portion of the city of Philadelphia. B. sold the machine to C., who removed it to another part of the city, beyond the district described in the license, and commenced the manufacture of bricks. *Held*, that this was an infringement of the patent.

The assignee of an exclusive right to use but not to make the thing patented within specified territory, may maintain an action against an infringer in his own name.

The act of Congress makes no provision for the recording of a mere license, and therefore it is not required. If recorded, it would not affect the rights of any one.

In the absence of any statutory provision, there is no principle of equity which requires the owner of a patented invention to give notice to a voluntary purchaser of a licensee's right, in order to enable him to hold such purchaser to the restricted use and enjoyment of the invention stipulated in the license.

It is the duty of the purchaser to inform himself of the nature of the licensee's ownership, and the extent of his right; if he fails to do this, he can not complain that the patentee has misled him, or set up his own remissness to secure to himself a larger interest than was granted to his predecessor in the ownership.

(Before McKENNAN, J., Eastern District of Pennsylvania, June, 1870.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for an "improvement in brick machines," granted to Cyrus Chambers, Jr., October 6, 1863.

The facts are fully stated in the opinion.

H. R. Warriner and W. J. McElroy, for complainant.

Andrew Zane and Theodore Cuyler, for defendants.

McKENNAN, J.

The plaintiff seeks by this bill to enjoin the use of a patented brick machine beyond certain defined limits, within which its use was licensed to William M. Clark. The bill alleges that Cyrus Chambers, Jr., was the original inventor of a new and useful brick machine, for which letters patent were duly granted to him by the United States. That the patentee, by writing dated March 28, 1862, duly recorded in the Patent Office, assigned to the plaintiff all his right to and interest in said invention, except the right to manufacture said machines in the counties of Philadelphia, Pennsylvania, and Camden, New Jersey. That the plaintiff, by writing dated December 27, 1862, granted to William M. Clark, his personal representatives and assigns, a license to use one of said machines, and to sell all bricks or tiles made thereby within a part of the city of Philadelphia, specifically defined in said license. And that the defendants, claiming to be the owners of the machine licensed to Clark, had removed it beyond the district described in his license, and were manufacturing large quantities of bricks upon said machine without any authority from the plaintiff.

All these allegations are fully sustained by the proofs; and the plaintiff would, therefore, seem to have made out a complete title to the relief prayed for.

The defendants, however, oppose a decree in favor of the plaintiffs, on two grounds:

1. That this suit ought to have been brought in the name of the patentee, and can not be maintained by the plaintiff. The alleged infringement was carried on within the city of Philadelphia, and it is only the use of the machine therein which is complained of. This is covered by the patentee's assignment to the plaintiff, whereby an exclusive right to use the invention was secured to the plaintiff, which might be enforced against the patentee himself. By the settled construction of the act of Congress of July 4, 1836, an assignee can maintain a suit in his own name

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for an invasion of such exclusive right. *Wilson v. Rousseau*, 4 How. 646; *Gayler v. Wilder*, 10 How. 477.

2. That the license to Clark not being recorded, and no notice being given of any restriction of his right to use the machine, a purchaser at a marshal's sale of his interest in it would have the right to use it anywhere. The act of Congress makes no provision for the recording of a mere license, and therefore it is not required. *Brooks v. Byam*, 2 Story, 526; *Id.* 609. And although the license here was recorded in the Patent Office, May 1, 1863, that would not affect the rights of any one, because it was unauthorized. In the absence of any statutory provision, there is no principle of equity which requires the owner of a patented invention to give notice to a voluntary purchaser of a licensee's right, to enable him to hold such purchaser to the restricted use and enjoyment of the invention stipulated in the license. It is the duty of the purchaser to inform himself of the nature of the licensee's ownership and the extent of his right. If he fails to do this, he can not complain that the patentee has misled him, or set up his own remissness to secure to himself a larger interest than was granted to his predecessor in the ownership. It is a familiar rule that a purchaser at a judicial sale acquires only the title of the defendant in the execution to the property sold. Here Clark's ownership of the machine was qualified by an express restriction as to the place in which it should be used. He could not convey any greater interest. And to hold that a judicial sale could pass to the purchaser a larger interest, would make it operate to divest the patentee of a right and property which he had not voluntarily parted with, and which he is not, by any principle of equity, estopped from claiming.

Let a decree be entered for a perpetual injunction, and for an account as prayed for, with costs.

THE EARTH CLOSET COMPANY

vs.

WILLIAM H. FENNER ET AL. IN EQUITY.

In applications for provisional injunctions, the law makes the judge's discretion the rule, not unheeded that, in the qualities of mind which give character to an exercise of discretion, individuals differ scarcely less than in form and features. The judge is bound to decide a question of this kind as, in his judgment upon the particular case before him, the principles of equity and the practice of its courts warrant or dictate. For precedents in any recognized sense of the word, it is idle to search.

The patent having been reissued just before the bringing of the suit, no exclusive possession of the invention for any considerable time, accompanied by acquiescence by the public, nor any verdict, judgment, decree, or judicial order recognizing the validity of the claim having been shown, nor irreparable injury to the complainant having been averred, a provisional injunction was refused.

(Before KNOWLES, J., District of Rhode Island, February, 1871.)

MOTION for provisional injunction.

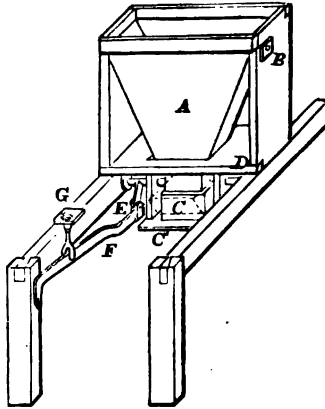
Suit brought upon letters patent for "improvement in deodorizing apparatus for water-closets," granted to Henry Moule and Henry J. Girdlestone; assigned by them to Joseph W. Beach, and by him to the complainants, to whom they were reissued October 4, 1870, in two divisions, numbered 4,137 and 4,138 respectively, of which, however, No. 4,137, only, was involved in the present suit.

The invention will be understood by a reference to the drawing, in connection with the claims.

The claims of the original patent were as follows:

1. The oscillating hopper A, the chucker C, upon the oscillating shaft E, the shelf C', pivoted lever F, and handle G, combined to operate within the case, substantially as described, for the purposes specified.
2. The oscillating hopper A, the chucker C, upon the oscillating shaft E, and the weighted levers, in combination with each other, and the seat, substantially as described, for the purpose specified.

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The claims of the reissue No. 4,137 were as follows :

1. A vibratory or movable hopper, constructed and operating substantially as and for the purposes described.
2. A swinging distributor or chucker, arranged to operate substantially in the manner and for the purposes set forth.
3. The deflector-plate C', in combination with the chucker, operating as and for the purposes set forth.

Tillinghast & Carpenter, for complainants.

B. F. Thurston, for defendants.

KNOWLES, J.

Upon the pending motion in this cause, the parties have been fully heard at chambers. It is for a special, that is, a preliminary injunction, prayed for in the complainants' bill, charging an infringement of certain letters patent; and the state of facts, in view of which it is pressed, is substantially this :

On May 28, 1860, letters patent were issued from the Patent Office of Great Britain to the Rev. Henry Moule, of Fordington, in the county of Dorset, clerk, and James Bannehr, of Exeter, agent, for the invention of "improvements in the nature and construction of closets and commodes for the reception and removal of excrementitious and other offensive matter, and in the manufacture of manure from them." And it would seem that as early

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as October or November, 1867, there was in circulation, in London, a pamphlet of twenty-four pages, issued by a "Moule Patent Earth Closet Company," giving the public full information in regard to earth closets and commodes, their utility, convenience, and economy, and showing, by numerous wood-cuts, the form and structure of the articles manufactured for sale by the company. On the title page of the pamphlet, among the names of the company's officers, are those of "Messrs. H. J. & J. W. Girdlestone, Consulting Engineers."

On March 29, 1869, said Moule and Henry J. Girdlestone made application to the Commissioner of Patents of the United States, who, on June 15, 1869, issued to them letters patent for a new and useful "improvement in deodorizing apparatus for water closets," which letters patent the grantees, on August 9, 1869, transferred and assigned to one Joseph W. Beach, who, on September 2, 1869, assigned them to the complainants, the "Earth Closet Company," a corporation under the laws of Connecticut.

On March 24, 1870, this corporation filed a bill of complaint in this court against the present defendants, charging an infringement of their said patent, to which the defendants answered, on May 17, 1870, in such terms that the complainants, after filing a general replication on July 4, withdrew their suit on October 17, 1870, paying defendants' costs, having already, on surrender of the patent of June, 1869, procured a reissue thereof on October 4, 1870 (No. 4,137), in which the invention is denominated an "improvement in deodorizing apparatus for closets," the patentees' specifications and claims having been amended and enlarged in such manner as to sustain a charge of infringement against the defendants, as the users, without license, of two of the three improvements, specified and claimed as such under the reissue.

On October 15, 1870, the complainants filed a second bill, now pending, charging an infringement of their patent as thus reissued, and praying an account and an injunction, and also a preliminary injunction. On January 12, the complainants moved, in effect, that a preliminary injunction issue, and, on February 16, at chambers, this motion was heard.

The defendants, it is proper to add in this connection, in their affidavits, admit that, in the spring of 1869, they did manufacture

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earth closets of the form and kind depicted in the pamphlet above referred to, and that some of these thus manufactured had been sold since the reissue of the patent; denying, however, that since that reissue any of these articles had been made by them. They further say that no one of these closets made by them, saving some twenty or twenty-five, made prior to the date of the Moule & Girdlestone patent (June 15, 1869), comprised "an oscillating hopper," which, as they contend, was and is the only portion of the mechanism covered by that patent, as originally granted, and therefore the only portion covered *de jure* by the reissue of October, 1870.

Such being the facts, the complainants, presenting their reissue patent of October, 1870, as a valid patent from and after the date of the original (June 15, 1869), contend that, under existing laws and the rules of practice in the circuit courts of the United States, they are entitled to the injunction asked.

In opposition to this claim, the defendants submit several propositions, which they contend are tenable, in view of the facts admitted and in proof, and the law, as found in the Statutes at Large and in the recorded adjudications of the federal judiciary. Thus they say:

I. The said patent is void, inasmuch as the reissue is not for the same invention described in and protected by the original patent, which, say they, was simply for an "oscillating hopper," and not for the "chucker" or "deflector" specified in the reissue, and which alone have been used by the defendants.

II. Said patent is void, inasmuch as the so-called improvements of Moule & Girdlestone are in truth but modifications of the apparatus patented in 1860, to Moule & Bannehr—covered by and included in that patent—and therefore not patentable in the United States in 1869. This, they argue, was the view of Moule and his associates, the owners and controllers of the English patent, wherefore no patent for these was ever taken out in England. And if this be not a tenable position, then, as an alternative one, they contend that these improvements, by whomsoever devised, were abandoned to public use—given to the world—by the publication of the pamphlet referred to, with its pictorial illustrations, shown by the evidence to have been in circulation in November, 1867, but believed to have been (as the defendants

hope to show conclusively at a future day) in circulation, in substance, at a much earlier date.

III. Said patent is void, inasmuch as the reissue was granted to the complainants, without the oaths of the inventors that they were the inventors of the chucker and deflector, specified as patentable improvements in the reissue, though ignored as such (as defendants contend) in the original patent, granted upon their oaths. In a word, say the defendants, Moule & Girdlestone obtain a patent in June, 1869, making oath that they were the joint inventors of certain mechanism, so described that the defendants could, without infringing the patent, continue the business in which they had engaged prior to its issue; and, in October, 1870, that patent is surrendered by its owners, and a reissue granted to them, without the *inventors'* oath, under which (if the reissue be a valid patent) the defendants are bound, and may be compelled to abandon that business.

To these positions of the defendants, the complainants reply that their patent is *prima facie* proof of title on their part, and that this is not rebutted, or even appreciably weakened, by the proofs or arguments of the defendants; contending that upon some points the patent is in itself conclusive and unimpeachable proof, and upon others that the evidence of the defendants is pointless or unreliable. That the first and second points are legitimate grounds of defense to the bill, as well as to this motion, is not controverted; and that some of the questions presented are questions of evidence, of fact, and not of law, must be admitted in deference to the ruling of the Supreme Court in *Bischoff v. Wethered*, 9 Wall. 812. They are, moreover, questions upon which much testimony can and probably will be offered, and in regard to which it is to be anticipated even experts the most skilled and most truthful may differ. Hence I shrink from passing upon them, unaided by illumination from any other quarter than the affidavits of the two defendants and a zealous amateur adviser on the one side, and those of J. W. Beach (grantor of the complainants), C. W. Waring (agent of the complainants), and C. W. Beach, on the other. Said Justice Story (1 Mason, 469); "My humble knowledge does not permit me to venture on such difficult topics, and fortunately my duties as a judge do not require me to master them. I am content on this, as on other occasions,

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to hear from those who can give the proper instruction, and then to apply it to the solution of such questions of law as are fit to be entertained here." Happily, however, any expression of opinion upon the incidental questions raised at the hearing is unneeded in this connection. Are the complainants upon the case made entitled to a preliminary injunction? is the question addressed to me; and my answer, whether an affirmative or a negative, must not be construed as indicating concurrence with either party in their views of the questions of law and fact raised and discussed. These may, at a subsequent stage of the cause, again become subjects of discussion, under circumstances more favorable to correctness of judgment than is a hurried hearing at chambers upon but the fragmentary evidence of parties in interest, in the unsatisfactory form of *ex parte* affidavits. Until then, in my judgment, can with great propriety be deferred any expression or even intimation of my views upon the merits of the complainants' case, or the tenableness of the defendants' positions in justification.

The motion is one of that class addressed, in technical parlance, to the discretion of the court. For *precedents*, in any recognized sense of that word, it is therefore idle to search. By one judge, an injunction may be granted to-day, under a given state of facts, and by another, be refused to-morrow, upon identically the same state of facts, and yet neither functionary be chargeable with even error in judgment. The law makes the judge's discretion the rule, not unheededful that, in the qualities of mind which give character to an exercise of discretion, individuals differ scarcely less than in form and features. The judge is bound to decide a question of this kind as, in his judgment upon the particular case before him, the principles of equity and the practice of its courts warrant or dictate—and this, whether his decision be in accord or at variance with that of his brother officer, of whatever grade or whatever locality. The largest liberty imaginable is his, "with no rules to restrain—no after-reckonings to dread." Neither upon appeal, nor by writ of error, nor even by petition for revisory action, can a judge's rulings or findings upon a motion for a preliminary injunction be subjected to correction or even criticism on the part of his superiors in official rank or in judicial acumen.

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In the decisions of the Supreme Court, therefore, are found neither authoritative rules, nor even suggestive dicta, bearing upon the subject of preliminary injunctions. But this want, if such it be, we find supplied in the reports of decisions in the circuit courts of the several districts—decisions, in most instances, by justices of the Supreme Court, sitting as circuit judges—and from these, as would naturally be supposed, may be deduced some propositions entitled to grave consideration upon the part of the inexperienced judge called to pass upon a motion of this character. The inquirer learns by a glance at the circuit reports that motions of this sort are not infrequent in the several districts, and that many of the judges have, as occasion required, stated at length or curtly indicated their views of the judicial duty when the injunction power of their respective courts was invoked. For instance :

Justice Nelson, in *Sickles v. Youngs*, 3 Blatch. 296, says : “As this is a motion simply for a preliminary injunction, and not a case upon pleadings and proofs, for a final hearing, I shall not look further into the mass of papers before me than to ascertain whether or not a case has been made, which, upon established principles of equity, *to prevent an irreparable injury*, requires the court to interfere, pending the litigation, and restrain the defendants from the further use of the apparatus or machinery charged with infringement, until the right is finally determined. And upon these principles, it is well settled that, unless the right is clear upon the papers and proofs presented, and upon which the motion is founded, in favor of the plaintiffs, the injunction will be withheld, and the rights of the parties be left unaffected and unchanged, until the case is matured for the final hearing, and definitely disposed of.”

In this paragraph is clearly stated the principle or rule to be kept in mind by counsel, parties, and court. And if we turn to the reports of decisions in the first circuit, while we find nothing in conflict with this rule, we find in almost every volume recorded adjudications in harmony with it. Nor is this all. In many instances, the judges in this circuit (Story, Woodbury, Curtis, Clifford) have had occasion to state in what cases—that is, under what state of circumstances—a preliminary injunction would be granted or refused by them respectively in the exercise of a judi-

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cial discretion—as does Justice Woodbury in *Orr v. Littlefield* and *Perry v. Parker*, 1 W. & M. 7 and 280; and in *Woodworth v. Rogers*, 3 W. & M. 135. See also *Foster v. Moore*, 1 Curtis, 279; *Sargeant v. Seagrave*, 2 Curtis, 553; *Forbush v. Bradford*, 1 Fisher, 317; and *Crum v. Brewer*, 2 Curtis, 507—to name no others.

An examination of the decisions of the judges of this circuit, be it cursory or critical, it is believed, warrants the assertion that, by no one of the distinguished jurists above named, has it ever been held that a preliminary injunction should issue at the instance of a complainant, in a patent cause upon a state of facts not widely distinguishable from that shown in the case at bar, in several very important particulars. These it can subserve no desirable end here to specify. It seems sufficient to say that, taking as sound the dicta of Justice Nelson, as above quoted, I can find in the evidence and arguments of the complainants no sufficient ground for the pending motion, especially as a contrary conclusion would, in my view, be irreconcilable with the recorded adjudications of each and all of my predecessors in this circuit.

No exclusive possession of the invention for any considerable time, accompanied by acquiescence in their claim by the public, nor any verdict, judgment, decree, or judicial order, recognizing that claim, do the complainants show or attempt to show, and (what is not less noteworthy in my view) it is not to be pretended that the injunction prayed for can, under the circumstances of this case, avert from the complainants any *injury* to which the epithet *irreparable* would not be glaringly inappropriate.

THE MOTION is overruled.

ABNER G. BEVIN

vs.

THE EAST HAMPTON BELL COMPANY. IN EQUITY.

Where the undisputed acts of an inventor furnish evidence of the abandonment of his invention, his testimony upon the trial that he never did intend to abandon it, is entitled to very little consideration.

In applying the language of courts, attention must be paid to the facts with which they are dealing. This is especially true when citing their opinions in patent causes.

An application can disclose nothing to the public, nor give the public notice of any definite intention of the inventor, while that application and the most important papers in which the invention is described, are not in the Patent Office, but are in the inventor's possession.

Where an inventor, after the rejection of his application, did nothing to amend or reverse the judgment of the Patent Office for ten years: *Held*, that this delay could not be excused by the plea that as the rejection was wrongfully made, the delay was the fault of the commissioner, and not of the inventor.

The continuity of two applications for a patent for the same invention is a question of fact, and not of law, and is to be determined by evidence. A technical withdrawal is not necessary to interrupt such continuity.

Where an inventor filed his application in 1852, which was acted on without delay, and rejected for a simple and intelligible reason, but instead of taking any steps to reverse the action of the office, the applicant withdrew all his papers, including the application itself, except a single drawing, and then, for ten years, permitted his invention to go into notorious public use: *Held*, that the application was abandoned.

In January, 1852, B. applied for a patent. His application was rejected in April, 1852. He did not appeal or apply for a re-examination. In May, 1852, he took from the Patent Office his application, and all the papers connected with it, except one drawing, but made no formal withdrawal. The papers so withdrawn were never returned. From May, 1852, until April, 1862, he had no communication with the Patent Office, and took no steps toward obtaining a patent. During that interval, his invention went into extensive use, with his knowledge, and without his objection. In April, 1862, he filed a new application

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for a patent for the invention, and paid a new fee. The new application made no reference to the application of 1852. The fee paid to the Patent Office in 1852 was not withdrawn: *Held*, that the application of 1852 had been abandoned, and that a patent granted in 1869, on the application of 1862, was void, because of the public use of the invention, for nearly ten years before 1862, with the permission of the inventor.

The continuity of two successive applications for a patent for the same invention is a question of fact, and not of law, and is to be determined by evidence.

A technical withdrawal of the first application is not necessary to interrupt the continuity between it and a succeeding one. It may be in fact, though not in form, withdrawn.

(Before WOODRUFF and SHIPMAN, JJ., District of Connecticut, September, 1871.

FINAL hearing on pleadings and proofs.

Suit brought on letters patent for an "improvement in metallurgic furnaces," granted to plaintiff May 4, 1869.

A description of the invention or a recital of the claims is unnecessary, as the decision turned upon other grounds, which are fully set forth in the opinion of the court.

W. Edgar Simonds, for complainant.

John S. Beach, for defendants.

SHIPMAN, J.

This is a bill in equity praying for an injunction and an account, and is founded upon a patent issued to the plaintiff May 4, 1869. The alleged invention is called, in the patent, an "improvement in metallurgic furnaces." The device is a simple one, and need not be described here. It is sufficient to say that it required inventive thought to originate it, and that it is a useful improvement. That the plaintiff was the original and first inventor may also be conceded. The defense, as set up in the defendants' answer, rests upon the following grounds: 1. That the invention "was in public use, with the knowledge and consent of the inventor, for more than two years prior to his application for the said letters patent." 2. "That the plaintiff, since his application

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for said letters patent, and before the issuing of the same, and during the period of seven years which elapsed between said application and the obtaining of said letters patent, knowingly permitted his alleged invention to become public property, and abandoned the same to the public."

There is very little dispute between the parties about the facts. In January, 1852, the plaintiff applied for a patent, and in April of the same year his application was rejected. From this rejection no appeal was taken, or re-examination applied for. In May next following, the plaintiff took his application, and all the papers connected with it, except one drawing, from the Patent Office, but no formal withdrawal appears to have been made. The papers thus withdrawn from the office were never returned. From May 28, 1852, till April 28, 1862, the plaintiff had no communication with the Patent Office, and the only evidence which that office contained, during these ten years, of his alleged invention was the drawing and the entries on the file wrapper of the date of filing the petition and other papers, the rejection of the application, and the delivery of the papers, on the order of the plaintiff, to his brother, May 28, 1852.

At the time his application was rejected, in April, 1852, the office referred the plaintiff to "Wyman on Ventilation," as containing evidence that his invention had been anticipated and antedated. The plaintiff, in his testimony, states what he subsequently did, in reference to securing a patent under this application, as follows: "I consulted Mr. Barnes." (His attorney, through whom he had made his application.) "Mr. Barnes said to me that I had paid in thirty dollars in gold; that I could, if I wished to abandon it, draw back twenty dollars from the government; but his advice was to let it lie and think of it, and, perhaps, I might think it best to take it up some other time, and I might see some others, perhaps some one in Washington, who would be able to go and explain the matter, and see more particularly about the reasons; and, in the course of two or three years, or a year or two, my brother saw Mr. Truman Smith, a member of Congress. Mr. Smith said he would undertake to obtain the rejected patent, but he thought I had better make some little alterations, and, in looking at the thing, I did not see how I could, and never did make any alterations, and so it run along till 1862, I think it

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was, when I became acquainted with Munn & Co., of New York, who said they would undertake to obtain it for me, and made application. The patent was rejected" (the application of 1852), "because it was supposed to be anticipated by 'Wyman on Ventilation.' Mr. Barnes said that he had never seen the book, and could not find it in Middletown, and thought that perhaps I might find it in Hartford or New Haven. I could not find it in Hartford, and I went to New Haven, probably in the course of a year or two after the rejection. I consulted Professor Olmsted, of Yale College. He said (after looking at the book) that he did not think it ought to have been rejected on that account." No other or further steps were taken by the plaintiff, or any one on his behalf, toward obtaining a patent for this invention, till April, 1862.

In the meantime, the plaintiff, who resided in the village of East Hampton, Connecticut, where most of the sleigh bells used in this country were, and still are made, erected, in 1852, a furnace embodying his invention. The same year Buell & Veazy erected one, and in 1853 another. In 1853, one was built by J. S. Hall & Co. In 1856 the defendants built theirs. In 1856, 1857, and 1860, three others were erected. All these furnaces embraced the alleged invention of the plaintiff, were situated in the village where he constantly resided, and have been openly in use down to the present time, in the same business as that in which the plaintiff has been engaged. The fact that these furnaces were all erected upon the same plan as that described in the plaintiff's patent, and used for the same purpose, was known to him from the time each was built, down to the date of his patent, in 1869. During all this time the plaintiff made no objection to this open and continued use of his invention by his neighbors and competitors in business, with all of whom he appears to have been on friendly terms. It is true, he gave them no express permission. The only references ever made to the subject, so far as the evidence discloses, are those testified to by the plaintiff. He says: "I do n't know that I ever objected. Mr. Abell, of the East Hampton Bell Company, came to me, when they were about to build theirs, and asked me if he could see our furnace and chimney. I told him he could, but I could give him no license to build one like it, for I had applied for a patent, and might some

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time obtain it. About the same time, J. G. Hinckley" (who had constructed the plaintiff's) "was about to build one for J. S. Hall & Co., and he came to see me, and said he had heard something about my applying for a patent. I told him I had, and could give him no license to build one." Hinckley also testifies that he built many of the chimneys already referred to, and that he had conversations with the plaintiff about them on various occasions, but that he never asked his permission to build any of them. This embraces the whole history of this invention, and the dealings of the plaintiff and others with it, down to April, 1862, when he filed another application for a patent.

In April, 1862, the plaintiff filed the new application, paying the fee of fifteen dollars, as prescribed by the act of 1861, then in force, that act requiring that sum to be paid on filing an original application. In this new application, no reference was made to that of 1852, nor to the payment of the fee required by the former act, nor to any circumstance connected with it. Indeed, the fact that any prior application had been made, seems to have been studiously ignored. This application of 1862 was filed April 28, and rejected May 10, in the same year. The specification and one drawing, which had been used on that application, appear to have been taken from the office, and were returned by the plaintiff's agents, Munn & Co., March 17, 1863. No further communication with the office was had by the plaintiff, or his agents, till April 5, 1869, when a re-examination was applied for. In regard to the course of the plaintiff after the rejection of May, 1862, he testifies as follows: "After that, I went to Washington myself, and saw Mr. Smith there then. He was not a member of Congress at that time. He thought it would cost considerable, and I concluded that I would think of it, and see what the prospect was of its value, and I neglected to employ him, or any one else, to make further application, until 1868, I think it was" (it was, in fact, in March, 1869), "when I employed Theodore G. Ellis, and he obtained the patent in controversy." During the period which elapsed between the rejection of the application, in May, 1862, and the application for a re-examination, in 1869, four or five other furnaces were erected in the same village, all embodying the plaintiff's invention. They were all built, and put into use, with the knowledge of the plaintiff, and continued

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in use, without objection on his part, till his patent was finally issued.

As to the means employed by the plaintiff to prevent his invention from being known and used between 1852 and 1869, he says: "The first five or six years after I built this chimney, I put up a notice on the door, 'No admittance without permission;' but, of course, all the workmen knew it, and I think it wore out after five or six years, and that was the only measure I took to keep people from coming into the shop and looking around."

The plaintiff never withdrew the twenty dollars paid to the Patent Office at the time of his first application. He also testified that he never intended to withdraw that application or abandon his invention. There is some evidence, also, that during the erection and use of the chimneys referred to, they were sometimes spoken of as "Bevin's chimneys."

We have thus given, in detail, the whole evidence which the plaintiff has offered to meet the issues of more than two years' use before the application of 1862, and of abandonment of the invention after that and before the patent issued.

There is no evidence that we deem satisfactory which would warrant us in concluding that these defendants knew or supposed that the plaintiff claimed this form of furnace as his exclusive property, or that he intended to secure a patent therefor, until near the time when the patent was granted. Even after this suit was commenced, and down to the time of filing the answer, they were ignorant of the application of 1852, as well they might be, for the application of 1862 purports, on its face, to be an original and independent one, and there was nothing in the proceedings of the Patent Office or the plaintiff, in connection with that application, which hinted at a prior one. The drawing to which the new specification referred was not the old one, but a new and different one; and, in the oath of the plaintiff, made March 26, 1869, and filed in support of the re-examination then asked for, he refers to his invention as one "for which he made application for letters patent of the United States, on or about April 28, 1862, and which was *once* rejected, May 10, 1862." In the application on his behalf, by his attorneys, for a re-examination, dated April 5, 1869, they refer to his rejected application, and state: "The *first* rejection was dated May 10, 1862." Indeed, so completely

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was the application of 1852 ignored in all those proceedings that it would be difficult for us to repress the suspicion that concealment of that fact was intended, if there existed any adequate motive for such a course.

The first question which obviously arises on these facts is, whether the plaintiff must be deemed to have abandoned his application of 1852. His testimony on the trial that he never did intend to abandon it, is entitled to very little consideration, in view of his acts. His undisputed acts were certainly very cogent evidence of abandonment. He withdrew his application, and all the papers connected with it, from the office, May 28, 1852, and never, from that day to this, furnished the office with any evidence whatever that he intended to pursue that application. It is true that he made no technical withdrawal; but he took away all the papers except one drawing, and never returned them, or made any allusion to them in his subsequent transactions with the office. The only evidence of his intentions, or invention, which the Patent Office contained, for ten years, was a single drawing, which had been filed in support of an application soon rejected, and which had been left behind when all the other papers were withdrawn. In the meantime his invention went into open and notorious use in his own neighborhood, and under his own eyes, and so continued for ten years, without one word of precaution or remonstrance on his part, either communicated to the public directly or through the Patent Office constructively. His remark to one or two persons, in casual conversations, that he had applied for a patent, and might some day obtain one, and, therefore, could give no license to use his invention, is of little importance, in view of the other facts in the case. No one asked his permission or license. He forbid no one the use of his alleged invention. His notice, on the door of his factory, that no one could enter without permission, is of still less consequence as evidence of his intention to pursue a claim for a patent. Such notices are common on the doors of manufactories. They are as often put up to keep out idlers as to conceal unpatented inventions. Besides, this notice was effaced by time long before he renewed his application, and, if its presence on his door, while it lasted, was evidence of his intention to obtain a patent for something within, its subsequent absence for years was evidence that

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he had abandoned that intention. But, while it was there, it had no effect to conceal the invention or notify the public against its use, for it was in daily and public operation throughout the village. During all this time the plaintiff took no steps to secure a patent. He knew the ground on which the office rejected his application, and ascertained from Professor Olmsted that, in the opinion of the latter, the reason given by the office for the rejection was not sound. This was within a year or two after the rejection of May, 1852. Here the matter slept. No fact is given in the evidence, nor is any reason suggested, by which we can account for the plaintiff's long-continued inaction, if he intended to pursue his claim. His device was a simple one. His application had been rejected for a simple reason. No considerable expense or trouble was required to endeavor to revise and reverse the decision of the office. The common plea of poverty is not set up. The plaintiff was, during all these ten years, prosecuting a successful business. This is clearly inferred from the fact that establishments of the same character as his were going into operation every year, and are still pursuing the same business. The plaintiff was misled by no suggestion of discouragement or difficulty in his path. The remark of Mr. Smith, that it would "cost considerable," was not made till after the rejection of 1862, and, if it had been, there is no pretense that the plaintiff was not able to defray the necessary cost of any legitimate effort to secure a patent. In view of all the evidence on this point, it is impossible to resist the conclusion that the plaintiff wholly abandoned his first application, gave up all idea of obtaining a patent under it, and, for that reason, permitted it to go into unmolested public use.

But the plaintiff insists that the fact that he filed an application in 1852, is conclusive evidence in his favor, and cites in support of this claim the case of *Adams v. Jones*, 1 Fisher's Patent Cases, 527, 530. In that case, Mr. Justice Grier remarked: "By the application filed in the Patent Office, the inventor makes a full disclosure of his invention, and gives public notice of his claim for a patent. It is conclusive evidence that the inventor does not intend to abandon it to the public. The delay afterward interposed, either by the mistakes of the public officers, or the delays of courts, where gross laches can not be imputed to the

applicant, can not affect his right." With this doctrine, in its application to the facts of that case, we have no controversy. Adams filed his application in 1850, but did not receive his patent till 1857. There is no suggestion that he took his papers, including his application, from the office, and never returned them, thus withdrawing from the public the disclosure he had made of his invention, and all evidence of its character, except a drawing, from which, alone, no one could tell precisely or substantially what he claimed. There does not appear to have been any voluntary delay on the part of the applicant. On the contrary, he not only did not withdraw his application, but "continued to insist upon his right to a patent." The delay in prosecuting his appeal to a hearing "was not in consequence of any laches of the complainant's, but of the inability of the aged chief justice to attend to the business of his office." In applying the language of courts, attention must be paid to the facts with which they are dealing. This is of especial importance when citing their opinions in patent causes. When it was said by the court, in the case above cited, that, by an application filed in the Patent Office, the inventor makes a full disclosure of his invention, and gives public notice of his claim for a patent, and that this is conclusive evidence that he does not intend to abandon it to the public, the court must be understood as referring to an application remaining on file, and prosecuted with at least some diligence, unless prevented by some cause other than that of the applicant's voluntary omission to move in the matter. An application for a patent can disclose nothing to the public, nor give the public notice of any definite intention of the inventor, while that application and the most important papers in which the invention is described are not in the Patent Office, but in the inventor's pocket. The remarks of the court in that case, which immediately follow those already cited, show that the opinion will bear no such construction as that sought to be put upon it by the present plaintiff. "The statute," Mr. Justice Grier adds, "forfeits the right of an inventor to a patent, only where the invention has been in public use more than two years before the application. A man might justly be treated as having abandoned his application, if it be not prosecuted with reasonable diligence. But, involuntary delays, not caused by the laches of the applicant, should not work a forfeiture of his rights.

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In this case, the complainant did not commence the manufacture of his improved lock till some time after his application was on file. The delay was not in consequence of his laches; and, within a reasonable time after the decision of the court as to the extent of his invention, a patent was granted for that portion of it to which he was clearly entitled. Here is no abandonment, either by the letter or spirit of the statute, but a continual claim, amid difficulties arising either from the obtuseness of officers, or accidental but unavoidable delays of public tribunals." In the case before us, no part of this long delay of ten years is chargeable to anybody except the plaintiff himself, unless it be the "obtuseness of the officer" who rejected his application in 1852. It certainly did not require ten years' deliberation on the part of the plaintiff for him to determine whether he would even attempt to overcome that "obtuseness." This long delay he does not pretend to excuse. It was, under the circumstances, not only not reasonable diligence, but it was no diligence at all. It was not only laches, but very gross laches.

The case of *Adams v. Edwards*, 1 Fisher's Patent Cases, 1, also cited by the plaintiff, has no special bearing on the present controversy. The charge of Mr. Justice Woodbury conceded that an application might be abandoned, and, whether it had been in that case, was one question submitted to the jury. But, though, in that case, the patent was not granted till seven years after the first application was made, the original application was renewed, amended, and persisted in, until it was finally granted. The same patent was involved in the case of *Rich v. Lippincott*, 2 Fisher's Patent Cases, 1, cited by the plaintiff.

But the plaintiff relies particularly on the case of *The Dental Vulcanite Co. v. Wetherbee*, 2 Clifford, 555, and 3 Fisher's Patent Cases, 87. In that case, the facts are given by the reporter as follows: "It appeared that John A. Cummings first made an application for a patent for his invention in 1855, and that the same was, after three examinations, finally rejected, upon appeal, by the Commissioner of Patents, in 1856. The application was not further appealed, and was not renewed till March 25, 1864, when a new application was filed, upon which the patent issued. In the interval between the filing of the original application and that of 1864, the invention had gone into use to a considerable

extent, with the knowledge and consent of the then applicant, proved thereto; and it also appeared, that, during the same interval, the inventor had made certain assignments of interests in the invention. Certain letters of the patentee, and other evidence, were introduced, tending to show that the inventor had not relinquished his design of obtaining a patent at any time between the date of the original application and the final allowance of the patent." 2 Clifford, 557. The following are the remarks of Mr. Justice Clifford on this point: "The next objection to be noticed is that the inventor abandoned his invention, because his application for a patent, which was made April 12, 1855, was rejected February 6, 1856, and because he did not appeal at all, or make any new application until March 25, 1864. Strong doubts are entertained whether any new application was necessary; but, if it was, it is believed to be well settled that the second application must be regarded as having been filed in aid of the first, on which the rejection took place. *Godfrey v. Eames*, 1 Wall. S. C. 317.

"Actual abandonment is not satisfactorily proved; and it is not possible to hold that any use of the invention, without the consent of the inventor, while his application for a patent was pending in the Patent Office, can defeat the operation of the letters patent after they are duly granted. Such delays are sufficiently onerous to a meritorious inventor, if his patent is allowed to have full operation after it is granted, but it would be very great injustice to hold that any delay which the inventor could not prevent, should, under any circumstances, affect the validity of his patent." The plaintiff insists that the doctrine of that case is applicable to the one now before us, and fully supports the validity of his patent. We have, therefore, examined it with some care. The court evidently considered two questions as arising under that branch of the case—first, the relation of the last application to the first; and, second, that of actual abandonment of the invention while the application was pending. The first, if we correctly understand the remarks of the learned judge, seems to have been regarded as a question of law, which has been conclusively settled by the Supreme Court in *Godfrey v. Eames*: "Strong doubts are entertained whether any new application was necessary; but, if it was, it is believed to be well settled that the second application must be regarded as having been filed in aid

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of the first, on which the rejection took place. *Godfrey v. Eames*, 1 Wall. S. C. 317." And it is true that the court, in the latter case, say: "In our judgment, if a party choose to withdraw his application for a patent, and pay the forfeit, intending at the time of such withdrawal to file a new petition, and he accordingly do so, the two petitions are to be considered as parts of the same transaction, and both as constituting one continuous application within the meaning of the law." But this language of the court must be read in the light of the facts of the case before them. Those facts were, that "Godfrey, on January 31, 1855, filed an application for a patent for boot-trees. This application the commissioner, on May 17, 1855, rejected for want of novelty. On April 24, 1857, within the time required by the rules, Godfrey submitted his case again. The old application was withdrawn and a new one filed, *simultaneously*, the withdrawal fee of twenty dollars going to make part of the new application fee of thirty dollars, and not, in fact, being received by the applicant." On these facts, the court might well regard the two applications as connected together by an unbroken continuity. That they did not intend to decide that every subsequent application for a patent should be deemed, in judgment of law, to relate back to the first, whatever the interval of time, or the intervening acts of the applicant between them, is clear, for they immediately add: "The question of the continuity of the application *should have been submitted to the jury*. In directing them to return a verdict for the defendant, we think the learned judge who tried the cause in the court below committed an error." On that ground, a new trial was ordered.

On the second question, that of abandonment of the invention, the opinion in *Dental Vulcanite Co. v. Wetherbee*, as already cited, remarks: "Actual abandonment is not satisfactorily proved; and it is not possible to hold that any use of the invention, *without the consent of the inventor*, while his application for a patent was pending in the Patent Office, can defeat the operation of the letters patent after they are duly granted. Such delays are sufficiently onerous to a meritorious inventor, if his patent is allowed to have full operation after it is granted; but it would be very great injustice to hold that any delay which the inventor could not prevent should, under any circumstances, affect the

validity of his patent." We conclude that the facts which the learned judge had in view when he made these remarks have been inaccurately reported. They speak of the knowledge and consent of the inventor to the use as having been proved, while the opinion refers to a use without the consent of the inventor. The onerous delays referred to in the opinion we infer to be the delays interposed by the action of the Patent Office. Those were the only delays which the "inventor could not prevent," or, at least, provide against, by notice to those whom he knew to be using his invention. *Goodyear v. Hills*, 3 Fisher's Patent Cases, 134; *Gates v. Benson*, Decisions of Commissioner of Patents, 1870, p. 65, Cartter, C. J.

Now, in the case before us, as we have already stated, we are constrained by the undisputed facts to hold that the plaintiff abandoned his first application. In coming to this conclusion, we have not overlooked the case of *Pitts v. Hall*, 2 Blatch. C. C. 229, and *McCormick v. Seymour*, Id. 240, cited by the plaintiff. But in neither of those cases was this precise question before the court. In each, the point was whether the inventor had abandoned his invention to the public within the two years next preceding his application for a patent. As Mr. Justice Nelson well remarked, in his charge to the jury in *Pitts v. Hall*: "An abandonment or dedication may occur within the two years, and at any time down to the procurement of the patent. The mere use or sale, however, of the machine, within the two years, will not alone, or of itself, work an abandonment. There must be something more, because section 7 of the act of 1839 permits the sale or use by the patentee at any time within two years before his application, without its operating to invalidate his right." And, again, in *McCormick v. Seymour*, the same learned judge informed the jury, that "the mere fact of making and selling an improvement or invention, or of putting it into public use, at any time within two years before the application of a patent, is not, of itself, an abandonment of the invention to the public. The right thus to use his invention before the granting of a patent is a right conferred on the inventor by the act of 1839." In both the cases cited, he charged that where a defendant relies on an alleged abandonment of the invention to the public, within the two years next preceding the application for a patent, he should

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be required to prove it beyond reasonable doubt or hesitation. That is undoubtedly a sound rule. But the question now before us is, whether Bevin abandoned his *application* made in 1852. On this question, we think the proof ample and conclusive. He filed his application; it was acted on by the office without delay, and rejected for a simple and intelligible reason. Instead of taking any steps to reverse the action of the office, he withdrew all his papers, including the application itself, except a single drawing, and then, for ten years, permitted his invention to go into notorious public use. During all this time, the records of the Patent Office contained no evidence whatever of the character of his invention or of his claims in regard to it. By inspecting this drawing left behind, nobody could tell what portion of the chimney or furnace was claimed as new, or of what the inventor supposed his discovery to consist.

But we are told that the new application of 1862 must, in judgment of law, be deemed to relate back to the first one. We have already shown that the continuity of these applications is, according to the doctrine of *Godfrey v. Eames*, a question of fact, and not of law. The evidence does not establish that continuity, either in fact or intent. The original application, although not formally and technically, was practically withdrawn. The papers were taken from the office in 1852, and never returned. The application of 1862 made no reference to that of 1852, not even to the old drawing. When the application of 1862 was filed, there was practically no prior application pending, to which it could relate back. It follows that, as the application of 1852 was abandoned, and there was no continuity between that and the one filed in 1862, the latter must be deemed the original application, upon which alone the patent issued; and, as the plaintiff failed to make that application until after his invention had been in public use, with his permission, for nearly ten years, his patent is void.

This conclusion renders it unnecessary that we should consider the other question raised by the answer, whether the invention was abandoned after 1862. Let a decree be entered dismissing the bill, with costs.

WALLACE & SONS, AND PHELPS, DODGE & CO.

vs.

HOLMES, BOOTH & HAYDENS.

Where the want of parties complainant is not set up or suggested in the answer, it can not avail, unless the case is one in which the court can not proceed to a decree between the parties before it without prejudice to the absent parties.

Independent of special legislation, it is not doubtful that a guardian of the person and estate of an infant, appointed by the court of probate, has, as incidental to his office and duties, the power to sell personal property of his ward.

The statute of Massachusetts (Gen. Stat. Mass., chap. 109, sec. 22), which provides that probate courts may authorize or require a guardian to sell stock or other personal property, do not operate to deprive the guardian of power to sell personal property without the aid of such courts.

If it appear that the complainants have title, though not as sole owners, and no objection has been made by plea or answer, the court might perhaps proceed, treating the defendants as having waived the objection; or, at most, it might direct the absentee to be made a party, if necessary.

A claim for "the improved lamp, as not only constructed with its cone, a deflector, and its chimney rest, and chimney arranged with respect to each other as described, but as having the said deflector provided with peripheral springs or the same, or the slits and the rest made concavo-convex, and provided with an annular groove or lip at the bottom for supporting the chimney, the whole being substantially as described or represented," held to be for a combination of which the chimney was an essential element.

Where a burner and chimney were claimed in combination, and the defendants manufactured and sold the burner, leaving the purchasers to supply the chimney, without which such burner was useless: *Held*, that they infringed the patent.

Every sale of the burner was a proposal to the purchaser to supply the chimney to be added to it, and every purchase was a consent that it should be done.

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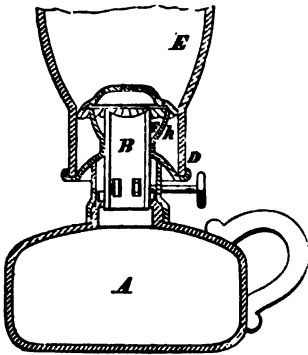
It can not be that when a useful machine is patented as a combination of parts, two or more can engage in its construction and sale, and protect themselves by showing that, though united in an effort to produce the same machine, sell and bring it into extensive use, each makes and sells one part only, which is useless without the other, and still another person, in precise conformity with the purpose in view, puts them together for use.

In such case, all are *tort feasors*, engaged in a common purpose to infringe the patent, and actually, by their concerted action, producing that result.

(Before WOODRUFF, J., District of Connecticut, September, 1871.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for an "improvement in lamps," granted to Michael H. Collins, September 19, 1865, and assigned to complainants.



chimney and hold it in place.

The facts of the case and the claims of the patent are set forth in the opinion, and will be understood by reference to the accompanying drawing, in which A represents the lamp, B the wick-tube, E the chimney, D the chimney-rest, and F the cone or deflector, provided around its upper edge with peripheral springs, or having the edge cut into radial slits, *h*, the function of which is to press against the glass of the

W. B. Wooster, J. S. Beach, and George Gifford, for complainants.

C. R. Ingersoll and Keller & Blake, for defendants.

WOODRUFF, J.

The complainants sue as the assignees and owners of letters patent, granted September 19, 1865, to Michael H. Collins, for an improvement in lamps, for an alleged infringement by the defendants, praying an injunction and an account of the gains

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and profits made by the defendants by the unlawful manufacture and sale of the invention so patented. The answer puts the complainants to proof of the patent and of their title as assignees, denies that the defendants have infringed the patent, and alleges that, if the patent recited in the bill of complaint shall be construed to cover anything contained in lamps heretofore and now manufactured and sold by the defendants, then, and in that case, such letters patent are, to that extent, void, for want of novelty.

Upon the trial, the defendants rested their defense solely upon two grounds: want of sole title in the plaintiffs and the non-infringement of the patent by the defendants. The court is, therefore, relieved from any examination of the testimony and documents, which were apparently intended to show that Collins was not the first inventor, or any other proofs, except such as bear directly upon the two points above mentioned.

1. As to the complainants' title. They first show that, on September 23, 1867, Michael H. Collins was, by the probate court of the county of Suffolk and State of Massachusetts, appointed guardian of the person and estate of his minor child, Florence E. Collins, upon his own petition and her nomination, and upon the giving of bonds in the form required by the statutes of that state.

They next produce an instrument dated September 24, 1867, which recites the granting of the foregoing and other patents to him, the said Michael H. Collins, that the said Florence E. Collins and Frances M. Collins have become the owners of the said invention for the territory of the United States; that Frances M. has assigned her interest to Sylvester W. Warren; that the said Michael has been appointed guardian of the said Florence E., whereby he is empowered to dispose of all the real and personal estate, goods, chattels, etc., of the said Florence E., and that it appears to the said Michael to be for the interest of his ward that her interest in the patents should be sold. It thereupon, in consideration of \$50, sells, assigns, etc., to Warren all the right, title, and interest the said Florence has in the patent right and in the invention, by virtue of an assignment to her and Frances M., dated February 12, 1867. The instrument is executed, under seal, by the said Michael, as guardian of the said Florence.

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Next, an assignment by Frances M., dated, also, September 24, 1867 (reciting, also, the assignment of February 12, 1867, by Michael H. Collins to her and Florence E.), whereby, in consideration of \$50, Frances M. assigns to Warren.

Next, an assignment under the same date, by the said Sylvester W. Warren to the said Michael H. Collins, in consideration of \$50, assigning to the latter the same patent for the territory of the United States.

Next, an assignment dated December 24, 1867, which recites the granting of the patent, the assignment thereof to Florence E. (a minor daughter) and Frances M. Collins, and that said rights had been attempted to be reconveyed to the said Michael, but that some doubt exists as to the precise effect of said conveyances, and, therefore, in consideration of \$30,000 paid to him, the said Michael, in his own behalf, and as guardian to the said Florence E., by the complainants in this suit, he, the said Michael, in his own right, and as guardian of the said Florence E., assigns to the complainants the said letters patent and the invention secured thereby, and all rights of reissue, extension, etc. Finally, an assignment under date of December 25, 1867, reciting a doubt whether Frances M., being the wife of Michael, received or now holds any interest in the patent by the conveyance to her by her husband, and therefore the said Michael and Frances M., husband and wife, assign all the interest which she may have in the patent or invention to the complainants herein.

The defendants insist that Michael H. Collins, as guardian of Florence E., had, under the laws of Massachusetts, no authority to sell her interest in the patent, without the order or license of one of the courts of that state, having jurisdiction for that purpose; and that the complainants, therefore, own only one-half of the patent (as tenants in common with her), and can not maintain this suit without her presence as a party. The want of parties, not having been set up or suggested in the defendants' answer herein, can not avail, unless the case is one in which the court can not proceed to a decree between the parties before the court, without prejudice to the rights of those who are proper to be made parties, but who are not brought into court. Whether the suggestion of want of parties, first made on the trial, has any sufficient foundation in fact, depends upon the construction and effect

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of the statutes of Massachusetts. It was claimed to be apparent on the face of the assignments that Michael H. Collins had practiced a fraud upon his infant daughter, through the form of a sale of her interest for a consideration of \$50, with intent that that interest should be immediately conveyed to him by the apparent purchaser, and so it was plain that he made use of his guardianship for the mere purpose of obtaining title to his ward's property, that he might sell the entire patent for the large consideration of \$30,000 paid to him by the complainants.

Whatever reason the assignments of September 24, 1867, furnish for such a suspicion, the actual transfer to the complainants is free from any such appearance of fraud. That instrument recites the doubt of the effect of the previous sale, and, in appropriate form, acknowledges the receipt of the full consideration in his own behalf, and as such guardian, and sufficiently charges him, in his capacity of guardian, with accountability for the actual proceeds of sale. If, therefore, he had authority to sell, the complainants, being plainly *bona fide* purchasers, acquired good title to the whole patent.

This question of authority must be determined by considering the effect of a statute of Massachusetts. Independent of the particular statute in question, it is not doubtful that a guardian of the person and estate of an infant, appointed by the court of probate, has, as incidental to his office and duties, the power to sell personal property of his ward. His duty to pay debts and to provide for the support, maintenance, and education of the ward, and, generally, to manage the estate and his trust, indicated and expressed in the bond he is required to give, conditioned to manage, dispose of, and apply the same, and to account for all property and the proceeds thereof, all imply the power of the guardian in this respect. In this management, he is under a rigid responsibility, not only for the property, but for its management and disposal for the best interest of the ward. If, therefore, he assumed to sell, for investment in other property, and, especially, if he ventured to change the nature of the property by investing in real estate, he would incur the hazard of an accounting in that respect, it may be many years afterward, in which, in case of depreciation, the discretion exercised by him might be assailed and impeached, and he be subjected to loss on the one hand, and, on

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the other, the estate might be depreciated, notwithstanding the good faith of the guardian. And yet, at times, the interest of the ward may often be greatly promoted by change of investments, for the making of which the guardian would be unwilling to assume the responsibility.

The statute referred to enacts that "the probate courts in the several counties, or the supreme judicial court, on the application of a guardian, or any person interested in the estate of a ward, after notice to all other persons interested therein, may authorize or require the guardian to sell and transfer any stock in the public funds, or in any corporation, or any other personal estate or effects held by him as guardian, and invest the proceeds thereof, and all other moneys in his hands, in real estate, or in any other manner that shall be most for the interest of all concerned. Said courts respectively may make such further order, and give such directions as the case may require for managing, investing, and disposing of the estate and effects in the hands of the guardian." Gen. Stats. of Mass., chap. 109, sec. 22.

It is argued that this statute has taken away the power of the guardian to sell any personal estate of his ward without an order of court, and that a sale and transfer by the guardian without such order is void, and confers no title on the purchaser. I do not think that this was the design of the statute, or that such is its effect. It unquestionably gives jurisdiction to the courts named summarily to control the guardian in this respect. So, also, it gives them power to control him generally in the management of the estate. But the construction claimed would imply that he can, since the statute, do nothing lawfully, except under a special judicial order obtained for the purpose. This jurisdiction is useful in a high degree. It looks chiefly to the investment and change of investment of the estate. It enables the guardian to obtain advice and protection. He may often think a change of the property, and even an investment in real estate, best for the interest of his ward, and yet be unwilling to make it at the hazard of the result, and of the judgment which may be passed thereon at the end of, perhaps, very many years. He can, therefore, apply to the court, and obtain recorded judicial approval, which will be his conclusive protection in the future. So, also, when any party interested in the estate is dissatisfied with the management

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of the estate, or deems a change in the investments desirable, he can apply, and, if it seem best, the courts may require change of investments, or make other order touching management or disposal of the property. This summary jurisdiction is conservative; it may be availed of by all parties; it protects the guardian in circumstances of doubt, and enables him to make investments not within the general line of his duty as guardian, and to make changes of investment without liability therefor, on an accounting which may be required long afterward, when, perhaps, unforeseen events make the acts seem negligent or improper; but it was not intended, and it does not operate to deprive the guardian of power to sell personal property. In doing so, he acts subject to responsibility for good faith, proper prudence, and the proper use of the proceeds; and, in such case, the purchaser obtains title to the property sold. ♣

This view of the complainants' title renders it unnecessary to say what, in this suit, would be the effect of a holding that they were not sole owners of the patent. The objection that Florence E. is not a party to the suit not having been made, either by plea or answer, would not necessarily defeat the suit. Even then, the complainants have title, though not as sole owners. At law, in an action for a tort, such non-joinder could only be urged by plea in abatement, or in diminution of damages; and, in equity, if the court were of opinion that complete justice could be done between the parties before the court, without prejudice to the absent party, it might perhaps proceed, treating the defendants as having waived the objection, or, at most, in such a state of the case, direct the absentee to be made a party, if that was deemed necessary. The conclusion, however, that the complainants have title, disposes of the objection.

2. The ground upon which alone the defendants claimed, on the trial, that they had not infringed the patent, is this: that the patent is for a combination of several parts, together constituting the improved lamp described in the patent; and that the defendants have only made and sold some of the parts of that combination, and can not, therefore, be charged as infringers.

The patent is, in terms, for "a new and useful improvement in lamps." The specification describes "the main purpose of the invention, or the principal part thereof," to be, not only to keep

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the lower part of the glass chimney of the lamp cool, so that it may readily be removed by the hand, but also to support the chimney without the use of a spring catch, or other devices, such as are ordinarily used. It thereupon proceeds to describe what is ordinarily called the burner of the lamp, namely, that portion which holds the wick tube, and which is to be screwed into the cap of the reservoir or body of the lamp, containing the oil or fluid used for combustion, consisting of an "air induction annular plate" at the bottom, convex, and provided with holes, to admit the air, and turned slightly up at the outer edge, to receive and sustain the chimney. The wick tube rises above it, and near, but just above the top, is surrounded by an "umbelliferous cone or deflector," which extends outward to the sides of the chimney, and, the outer edge being cut or slit radially, the divided edge forms springs, which press against the interior of the chimney and sustain it firmly in its upright position. The parts of the deflector between the slits being inclined downward, and being elastic, are adapted to receive the chimney, though there be irregularities and differences in the interior dimensions of chimneys which may be used. Other details are given pertaining to the construction, mode of operation, and uses of the parts, which it is not necessary to mention. It must suffice to say that what is called the burner embraces all the metallic portion of the lamp containing, surrounding, or placed above the wick, and to be screwed into the cap of the reservoir. The specification also describes the glass chimney to be used thus: "The lower part of the chimney, or that portion which extends from the deflector to the chimney rest, is constructed tubular and cylindrical. Above this part, the chimney bulges out, and finally is contracted to its top, in manner as shown in the drawings;" and, in the operation of the lamp, stress is laid upon the effect of perforations in the chimney rest, in its convex sides, through which the air, passing in currents, is alleged to impinge against the inner surface of the cylindrical portion of the chimney between the deflector and the chimney rest, and keep that part of the chimney cool, so that it may readily be seized between the thumb and finger, when it is desired to remove it.

The claim is as follows: "I claim the improved lamp, as not only constructed with its cone or deflector, F, and its chimney

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rest, D, and chimney, arranged with respect to each other, as described, but as having the said deflector provided with peripheral springs, or the same, or the slits, *h, h*, and the rest, D, made concavo-convex, and provided with an annular groove or lip at the bottom for supporting the chimney, the whole being substantially as described or represented."

The proof shows that the defendants, from the fall of 1867, have been engaged in the manufacture and sale of lamp burners, called the "comet burners," which were not claimed on the trial to differ in any material particular from the patented invention, the principal apparent difference being in the substitution of a spiral elastic wire wound into the edges of the deflector, to press against the interior of the chimney and maintain its upright position, instead of the slit edge of the deflector itself, formed into springs, performing the same office. This, however, was not claimed to be a substantial difference, but was treated by both parties, for the purposes of the case, as (which, I think, it unquestionably is) an equivalent device, operating in the same manner, and producing the same effect.

But, although it is proved that the defendants used their burners, so manufactured, in their store, with chimneys placed thereon, to exhibit their burners to customers, in order to make sales, and to demonstrate their superiority over other burners, there is no proof that the defendants ever manufactured or sold a chimney; and, hence, they insist that, having made and sold only some of the parts included in the patented combination, they are not liable in this suit.

It is quite obvious that the distinguishing feature of the invention of Collins is the burner, with its chimney rest, a deflector having peripheral springs, to sustain the chimney without the aid of a catch or screw, and with air passages operating, when in use, to keep the lower part of the chimney cool, and obviously tending, by this means, and by the greater elevation of the flame, to prevent the lower portion of the burner and top of the reservoir from becoming unduly heated. It is also clear, and was proved that the burner alone, or the burner attached to the reservoir, is utterly useless. A chimney must be applied in order to its operation. So, also, a chimney without a burner is wholly useless.

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It was claimed, in behalf of the complainants, that the chimney is no material part of the invention, as patented, and therefore that the defendants have made and sold all that is material in the patent. I incline, however, strongly to the opinion that the patentee, in his specification and claim, instead of claiming the burner as new, and securing the exclusive right in respect to that, has claimed it in combination with a chimney, and must stand by his patent under that construction. In that view of the construction of the patent, the case stands thus: The complainants having a patent for an improved burner, in combination with a chimney, the defendants have manufactured and sold extensively the burner, leaving the purchasers to supply the chimney, without which such burner is useless. They have done this for the express purpose of assisting, and making profit by assisting in a gross infringement of the complainants' patent. They have exhibited their burner furnished with a chimney, using it in their sales-room, to recommend it to customers and prove its superiority, and, therefore, as a means of inducing the unlawful use of the complainants' invention. And now it is urged that, having made and sold burners only, they are not infringers, even though they have distributed them throughout the country, in competition with the complainants'; and have, to their utmost ability, occupied the market, with the certain knowledge that such burners are to be used, as they can only be used, by the addition of a chimney. Manifestly, there is no merit in this defense, and it must be regretted if the law be not such as will protect the complainants against this palpable interference. If the complainants were to succeed in finding those who manufactured chimneys for the express purpose of selling them to be used on these burners, the latter could clearly urge the same, if not a better defense to a prosecution; and so the complainants would be driven to the task of searching out the individual purchasers for use, who actually place the chimney on the burner and use it—a consequence which, considering the small value of each separate lamp, and the trouble and expense of prosecution, would make the complainants helpless and remediless.

The rule of law invoked by the defendants is this, that where a patent is for a combination merely, it is not infringed by one who uses one or more of the parts, but not all, to produce the same

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results, either by themselves or by the aid of other devices. This rule is well settled, and is not questioned on this trial. The rule is fully stated by Chief Justice Taney, in *Prouty v. Ruggles*, 16 Peters, 336, 341, and in other cases cited by the counsel. *Byam v. Farr*, 1 Curtis' C. C. 260, 265; *Foster v. Moore*, Ib. 279, 292; *Vance v. Campbell*, 1 Black, 427; *Eames v. Godfrey*, 1 Wallace, 78, 79. But I am not satisfied that this rule will protect these defendants. If, in actual concert with a third party, with a view to the actual production of the patented improvement in lamps, and the sale and use thereof, they consented to manufacture the burner, and such other party to make the chimney, and, in such concert, they actually make and sell the burner, and he the chimney, each utterly useless without the other, and each intended to be used, and actually sold to be used with the other, it can not be doubtful that they must be deemed to be joint infringers of the complainants' patent. It can not be that where a useful machine is patented as a combination of parts, two or more can engage in its construction and sale, and protect themselves by showing that, though united in an effort to produce the same machine and sell it, and bring it into extensive use, each makes and sells one part only, which is useless without the others, and still another person, in precise conformity with the purpose in view, puts them together for use. If it were so, such patents would, indeed, be of little value. In such case, all are *tortfeasors*, engaged in a common purpose to infringe the patent, and actually, by their concerted action, producing that result. In a suit brought against such party or parties, a question might be raised whether all the actors in the wrong should be made parties defendant; but I apprehend that, even at law, and certainly when non-joinder was not pleaded, the want of all parties would be no defense. Each is liable for all the damages.

Here the actual concert with others is a certain inference from the nature of the case, and the distinct efforts of the defendants to bring the burner in question into use, which can only be done by adding the chimney. The defendants have not, perhaps, made an actual prearrangement with any particular person to supply the chimney to be added to the burner; but every sale they make is a proposal to the purchaser to do this, and his purchase is a consent with the defendants that he will do it or cause it to be

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done. The defendants are, therefore, active parties to the whole infringement, consenting and acting to that end, manufacturing and selling for that purpose. / If the want of joinder of other parties could avail them for any purpose (which is not to be conceded), they must set it up as a defense, and point out the parties who are acting in express or implied concert with them. Nor is it any excuse that parties desiring to use the burner have all the glass manufacturers in the world from whom to procure the chimneys. The question may be novel, but, in my judgment, upon these proofs, the defendants have no protection in the rule upon which alone they rely as a defense against the charge of infringement.

Independent of this question, the proofs show an actual use by the defendants of the entire subject of the patent; but as the conclusion reached charges them as manufacturers and vendors, it is not material to inquire whether that use is within the scope of the bill of complaint, or would, by itself alone, entitle the complainants to charge them as infringers in this suit.

The complainants must have a decree for an injunction and account, as prayed in the bill of complaint.

THE WATERBURY BRASS COMPANY

vs.

EDWARD MILLER AND COMPANY, AND EDWARD MILLER.
IN EQUITY.

A machine which has no useful capacity for the performance of the function of a patented machine, and which stops short of that function, does not anticipate the patented contrivance, although it may be a near approach to it, and may have been very suggestive to an ingenious mind already conversant with the art.

Where no patent is granted, the invention, however novel, ingenious, or useful, may be used by any one; and where a patent is granted, the patentee must stand by his patent. He gains no exclusive right, ex-

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cept for such a machine as his patent describes and secures, though it may be far less broad or comprehensive than his actual invention.

In a certain sense, nearly all new machines are but combinations of old devices; that is to say, they do or may combine frames, bolts, rods, wheels, levers, and other devices, more or less complicated, none of which, regarded singly or separately, are new; and yet, the machine formed by the combination is new, as a structure, in its operation and in the effect produced. The patent, in such case, is not for a mere combination; and another machine, having the like construction, operation, and effect, in all that constitutes the principle of the machine and its efficient means of operation, is an infringement of the patent, notwithstanding it may contain a less number of parts, or other devices be substituted for some of its parts.

The two reissued letters patent granted to the Waterbury Brass Company, May 24, 1870, as assignees of Hiram W. Hayden, the inventor, one for an "improvement in machine for making kettles," and the other for an "improvement in brass kettles," are valid.

The first-named patent is for a machine, and the other patent is for the product of the process wrought by such machine, the machine and the process being described in the same terms in each.

The plaintiff's machine consisted of an engine lathe, a form, a clamp, and other devices, and an adjustable tool carriage, sustaining and guiding a burnishing or spinning tool in a definite, prescribed path, pressing the tool against the disk of metal operated upon, the tool carriage being moved by a screw connected by a gear-wheel with the power moving the lathe. The defendant's machine was, in substance, in all respects, like the plaintiff's, except that the tool carriage was moved by a rod connected with a cam, acted on by a gear-wheel, actuated through a crank by the hand of a workman. *Held*, that this was not an essential difference.

The words, "substantially as described and shown," in the claim of the patent, held to relate only to material features of the combination specified, to be ascertained by considering the purpose of the machine, and what are the elements of the combination which constitute its distinctive character, and are effective in producing the peculiar result for which the contrivance is made.

A patent may be good for a product, although no patent has been obtained for the machine or process by which it is produced; and so, also, a patent may be good for a product, although the inventor has received a patent for the machine or process.

Where the specification of a patent for a product fully describes the machine and the process by which the product is produced, such patent may be good, even though the same specification, annexed to a patent

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for the machine, may not fully secure the patentee against the use of his actual invention, because of a defect in the claim of the latter patent.

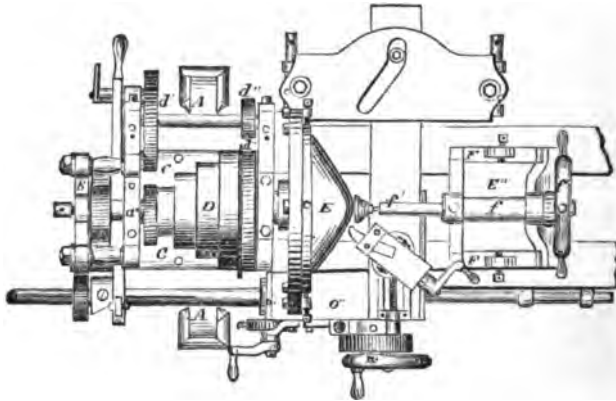
(Before WOODRUFF, J., District of Connecticut, September, 1871.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for "improvement in machine for making brass kettles," granted to Hiram W. Hayden, December 16, 1851; extended for seven years, from December 16, 1865; reissued February 13, 1866; and reissued again, in two divisions, May 24, 1870—one for an "improvement in machine for making brass kettles," and the other for an "improvement in brass kettles."

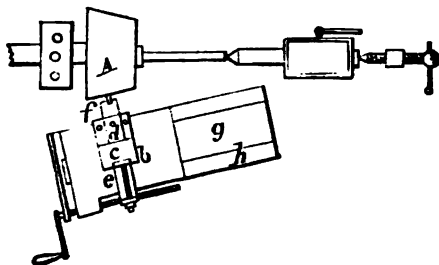
A former trial under the original patent will be found in the report of *Waterbury Brass Co. v. N. Y. and Brooklyn Brass Co.*, 3 Fisher, 43.

A description of the invention, together with the claims in controversy, will be found in the opinion of the court.



The above engraving represents a plan or top view of the Hayden machine. E is a kettle blank, partially formed, arranged upon a form, supported by a mandrel, and held in position by a spindle, *f'*. Form is given to the blank by a burnishing tool, so arranged as to follow a prescribed path, corresponding to the side of the former. This tool is connected by a system of shafting and gearing to the mandrel, which carries the former so that the movement of the tool is automatic.

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This engraving represents a portion of the Japy machine, showing a former, A, revolving upon a mandrel; a burnishing tool, f, provided with gearing, whereby it is compelled to move in a prescribed path. Motion is given to this tool by the hand of the operator, by means of a crank, and it is not automatically coupled to the mandrel. In this respect, the defendants' machine also differed from that of Hayden.

E. W. Stoughton and C. M. Keller, for complainants.

J. S. Beach, B. F. Thurston, and S. S. Fisher, for defendants.

WOODRUFF, J.

The bill of complaint herein, is filed to restrain the defendants from infringing two reissued patents, granted to the complainant, assignee of Hiram W. Hayden—one for an “improvement in machine for making kettles;” the other for an “improvement in brass kettles,” and for an account of the gains and profits hitherto made by the defendants by their alleged infringements. The defense contained in the answer of the defendants, and relied upon on the trial, consists in a denial that Hayden was the first inventor of the patented machine, or the kettle produced thereby; and, second, a denial that the defendants have infringed the patents.

It is not necessary to state the history of the complainant's patents, further than to say that, on December 16, 1851, letters patent were issued to Hayden for what he claims to have invented, which were afterward extended for seven years, and subsequent surrenders and reissues were made, upon the last of which the reissued patents were granted to his assignee May 24, 1870, which are relied upon in this suit.

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The reissued patent for an "improvement in brass kettles," in its specification, sets out a process of making kettles upon a machine described in the very terms and details employed to describe the machine which is the subject of the other patent; that is to say, one patent describes a machine and mode of making a kettle and other similar articles, and the other patent claims, as the invention of Hayden: "1. A kettle, or other similar metallic article, or vessel, made from a single sheet, or flat disk, or blank, of metal, stretched and compressed, so as to extend the sheet into its ultimate form, by the process substantially as herein set forth. 2. A kettle, or other similar metallic article or vessel, having its greatest thickness at the bottom, and thinned, or gradually reduced in thickness toward the top, by the process substantially as set forth." Hence, one patent is for a machine, described and operated as set forth in its specification. The other is for a product of the process, substantially as set forth in both.

Whether the product patent has been infringed, or can be infringed by the defendants, without, at the same time, infringing the patent for the machine, may, perhaps, be a question of interest to the parties. It was asserted, and substantially assumed, by the counsel for the defendants, on the trial, that it could not. It may not be necessary to consider that question. If deemed material, some observations will be hereafter made on that subject. Assuming, for the present, that the questions between the parties are identical under each of the complainant's patents, as the machine and process of making kettles and other articles are described in precisely the same terms in each, and that neither is infringed unless both are infringed, it will be sufficient to describe the machine and its operation in very general terms.

For the purpose of bringing into view the questions to be decided in this case, the machine may be generally described as of two parts, each having, in the process of making a kettle, distinct offices or functions. 1. An engine lathe, with its mandrel made to revolve by ordinary pulleys and gearing, and its mandrel foot or spindle, pointed, to sustain the subject of the operation when clamped to the mandrel, or a chuck attached thereto, and made to revolve therewith. This differs in no material respect from an ordinary cutting lathe, although supplementary devices are added, to adapt it to the particular service intended, such as a form or

pattern (in the shape of the interior of the article to be produced), made fast to the mandrel and to revolve with it—a clamp, adapted to the office of pressing the material upon the form, which also revolves with the form and on the point or end of the spindle—and an arrangement at the lower end of the lathe, by which the spindle is readily drawn back when it is desired to remove the kettle, etc. 2. A burnishing or spinning tool and tool carriage, secured to the frame of the lathe, consisting of a burnishing or spinning tool (either rigid, like an ordinary tool or a roller, with a beveled rounded edge, held at the end of an adjustable arm), and a carriage therefor, set upon slides, so adjustable and so guided when adjusted that the tool is sustained and guided in a precise path, prescribed for it before motion is given to the machine, the path being such that the tool will, when moved, travel along and in near proximity to the form set upon the mandrel, as above described. It will be readily seen that by these two parts of the machine, provision is made, first, for inserting in a lathe a circular disk or blank of metal, clamping it firmly against a form, and causing it, together with such form, to revolve with rapidity; and, second, a burnishing or spinning tool, adjustable so that it may set firmly against the disk, at or near its center, and, if moved, it is mechanically guided along and in near proximity to the bottom and side of the form.

So far, nothing is described which produces the desired result. The lathe may be set in motion, and the disk or blank will revolve. The tool impinges on the disk near its center, and the friction may produce some impression on the small circle, at the point of contact. But that is all. The material is in proper position; a form is in contact therewith, to communicate the desired shape; the tool is impinging on the disk near its center, and a path is prescribed in which it must, if moved, inevitably travel, and, so traveling, it will spin or stretch the disk upon the form to the precise shape thereof, and, at the same time, reduce its circumference at its upper or outer edge; or, in other words, it will spin the metal to the size and form desired. Motion of the tool is, therefore, alone wanting to the operation; and this motion is, in the machine described by the specification in the complainant's patent, taken, by gear wheels and pinions, from the wheels or pulleys of the revolving lathe. These wheels and pinions act

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upon a screw connected with the tool carriage, which will move it forward or backward, but with such arrangement of devices that, as already stated, the tool must move in its prescribed path. By these means, the machine, being set in motion, spins the disk to the form inserted in the machine, and, by a succession of forms, to any shape desired, the slides of the tool carriage and path of the tool being readjusted with every change of form. This statement does not give the details of the machine, and it may not be sufficient to give a full comprehension of its operation. But I think it sufficient to bring into view the questions in contest, and, with some other details, which may be suggested in the further discussion, to make the device intelligible.

The machine, in all its details, being described, and its complete operation stated, the specification annexed to what is called the machine patent, proceeds to state the claims: "What is claimed as new, and the invention of the said Hiram W. Hayden, is as follows: 1. The application of a rotary metallic form or mold, or successive forms or molds, in combination with a proper tool or tools, roller or rollers, sustained, moved, and directed in a proper path, by competent mechanical means, for the purpose of operating on a disk, blank, or plate of metal, so as to reduce it gradually from the center to the edge, at the same time forming it with straight sides, by successive stages, into a complete kettle, or into any similar articles to the forming of which this apparatus can be applied, substantially as described and shown." The second claim relates to the peculiar arrangement for withdrawing or moving the spindle to facilitate the removal of the kettle, which is not claimed to be infringed, and need not be further noticed.

1. It was not questioned, on the trial, that the complainant's machine is useful. Prior to Hayden's invention, kettles and like articles had never been produced by machinery. With especial reference to brass kettles, the manner of producing by machinery, introduced by Hayden, wrought an entire revolution in the manufacture. Small articles of thin metal had long been spun on a lathe, the spinning tool being held, guided, and forced against the metal by the hand of the workman, sometimes aided by making the handle of the tool a lever, by a pin on the tool rest of the lathe; but the power of the workman was inadequate to apply the tool to thick disks or portions of metal with force sufficient to

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spin kettles of suitable size and strength for most ordinary uses. Such kettles were produced by hammering, or by forcing plates or disks of metal into dies, and, to some extent, by stamping successively into various dies, gradually approximating the form desired, and, intermediate the stampings, burnishing the partially formed kettle upon a form. The defendants, however, on the trial herein, relied, as above stated, upon their allegations that Hayden was not the first inventor, and that they have not infringed his patent. They have proved that the art of spinning metals is ancient. They produced one or more witnesses, who made small articles of brass, such as "binnacle bowls," parts of lamps and lanterns, etc., before the invention of Hayden, by spinning the sheets or disks of metal, or burnishing to a form on a lathe, the spinning or burnishing tool being held in the hand, guided thereby, and applied by the power of the workman to the revolving metal, to reduce it to the required form. Holtzapffel's work on "Turning and Mechanical Manipulation," was also produced, in which the "spinning" of metals on a lathe, or "burnishing to form," is described, the tool, however, being directed, guided, and applied by the power of the workman, aided by a pin in the lathe rest, as a fulcrum, to increase the pressure of the tool upon the metal.

These proofs fall far short of establishing that Hayden's machine was not new. In neither case was the tool sustained, guided, directed, or applied by mechanism; it was not forced against the metal by the power of the machine; and it traveled, not in a path definitely and accurately prescribed, in which it was held by the mechanical devices employed, but it moved on or along the metal in such direction, and in such relation thereto as the strength and skill of the workman might avail to give to it. Whether it produced, even in the small articles which were thus made, a uniform thickness, or a gradually diminished thickness, or an irregularity in this respect, depended on the skill and ability of the workman, and not on any mechanism contrived to secure the result desired in this respect. Hayden, on the other hand, by his adjustable slides and guides, made the path of the tool even and certain, producing, if he desired, a thickness of the sides of the kettles, etc., manufactured, diminishing upward from the angle at the bottom, effecting, as the complainant alleges, an important

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and obviously useful result, especially in the kettles produced, much more perfectly, at least, than had ever before been attained in their manufacture, namely, that they were thick at the bottom and at the angle, where thickness and strength were important, and diminished in thickness up the sides and at the top, where lightness was desirable.

The defendants also produced a patent granted in England, dated February 3, 1846, to T. F. Griffith, for "stamping and shaping metal." It must suffice to say of this, that the invention, so far as it has any possible relevancy, consisted, as described by the patentee, of an improvement in the form of dies used when shaping sheet metal by stamping, by which improvement, the metal, in all parts, will more nearly retain the thickness of the original sheet metal from which the vessel or article is raised by stamping; and, also, in improving the process of manufacture, by changing the shape, intermediate the successive stampings, by burnishing it upon and to the shape of a form, by the ordinary burnisher. It is entirely manifest, from this statement, and more distinctly, from other parts of his specification, that spinning the metal, to extend it, was no part of his design. He repudiates that as a disadvantage, which his process avoids, and, in order to this, he uses a disk of a diameter about equal the diameter of the upright vessel added to its depth. His process is a combination of stamping and burnishing. He invented no machine for the burnishing, and claims none; and, although, in the burnishing which he describes, he changes the form of the article to fit the form inserted therein, and that may involve, in some slight degree, the spinning of the metal, he neither claimed, nor did, in fact, extend the metal by spinning it, so as to extend and make thin the sides, employing a disk of much smaller radius than the length of the completed vessel, measured from the top to the center of the bottom; nor does he describe, or claim to have invented, any machine whatever, by which any spinning or burnishing can be done.

On the question of the novelty of the invention of Hayden, the defendants put in evidence another patent, which assumed the appearance of much importance. It was granted in France, under date of December 4, 1835, to Messieurs Japy, brothers, for "*une machine à rétreindre et à planer*," which was translated

by one of the witnesses, "a machine to spin and smooth;" and, also an addition or supplement to such patent, which was granted under date of June 26, 1838—both long prior to the invention of Hayden. Under the direction of one of the expert witnesses, the defendants had caused to be constructed a machine, which, in most of its features, was strikingly like Hayden's machine, but, in the particular which, on the question of infringement hereafter to be considered, constitutes the difference between the Hayden machine and those the defendants make and use, conforming to the latter. Whereupon, the defendants claim that the Hayden machine was not new in any of the features in which their machines are like it, Japy brothers having anticipated it by their machine, in 1835; and that, in any particulars in which the Hayden machine differs substantially from the Japy machine, the defendants have not copied it—in short, that the machines which the defendants use are, in substance, the Japy machine, invented long before Hayden made any invention. The machine constructed under the direction of the expert, and claimed to conform to the Japy patent, was produced on the trial, and was there set in operation. A disk of sheet brass was inserted, and it was reduced by the tool to substantially the same form as is produced by the Hayden machine. The question, therefore, whether the machine described in the Japy patent was, in fact, so far like the Hayden machine, as to anticipate his invention, is of great importance, should it appear, in the further consideration of the case, that the machines used by the defendants are infringements of the Hayden patent.

On that question, I observe, first: It is entirely plain, upon a careful examination of the Japy patent, specification, and drawings, that no idea of spinning the metal, to reduce it to the desired form, ever occurred to the Messieurs Japy, either in the making or use of their machine, or when they described it and the manner of constructing articles therewith. They formed the article sought to be produced by successive stamping in dies or collars, until, according to their express declaration, "the desired height of the sides is produced," and "it is finished, in regard to shape, when it leaves the last collar." This process of stamping to a completed form is described in detail, and illustrated in the drawings, and the difference between the mode patented in the

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addition or supplement to the patent and that at first employed by them, with the superiority of their new mode of stamping, are distinctly pointed out. This advantage consisted in raising the sides of the vessel, by using, first, a stamp and die or collar much larger than the diameter of the vessel to be produced, and raising a rim or very short portion of the side; then, by a stamp and die a little smaller, raising the side a little higher, and so on through six or seven successive stampings, with stamps diminishing in size, but larger than the bottom of the vessel, until the last stamping, when a die and stamp of the size and form of the finished vessel was used. By this means, the metal at the angle of the bottom was bent but once, and was, therefore, less weakened and less liable to be torn, broken, or made thin, than in former modes, where each successive blow, in the gradual raising of the sides by stamping, brought each bending and each concussion upon the metal at that precise angle. The vessel, thus completed in form, was inserted in a lathe, and upon a form which corresponded with the interior of the vessel (called, in the original, "*un emprunt*"), attached to the mandrel; and, by the application of a tool or tools, while revolving, the bottom and sides were made smooth, the angle at the bottom was slightly rounded, and wrinkles and other inequalities were pressed to an even or polished surface. No suggestion of spinning or of burnishing is found in the description, and it is palpable that neither of them was effected in the operation. Neither the tool used, nor the process detailed, nor the power of the machine, was adapted to the making of kettles, as described by Hayden, the lathe process being, in truth, a smoothing process, and nothing more.

The vessel having already received its form, it is obvious that, if the process of spinning were applied to its bottom, its diameter would at once be enlarged, so that it would no longer fit its counterpart ("*emprunt*"), on which it was supported; and, consequently, when the pressure of the finishing tool was applied at the angle, there would be no interior support, between which and the tool the rounding process would be smoothly effected. So, also, if spinning was applied to the sides, they would be extended, and the form or shape of the vessel would be correspondingly changed, contrary to the distinctly declared purpose and intent of the patentees.

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Besides this, the tool was not adapted to spinning. For the bottom, a roller was used, of a thickness greater than its radius, and, on its outer circumference or face, rounded to a half circle, the bottom only requiring to be passed over lightly, to polish it, since the stamping produced no wrinkles or irregularities therein. For the angle, another roller was used, of like size, having its outer circumference or face hollowed out, so as to round off, by pressure, the angle at the bottom. For the side, a third roller, of like size, was used, having its outer circumference or face flat and straight, like the surface of a short cylinder, one of the edges being slightly rounded, so as, in its movement along the side, to slide readily over or upon the wrinkles or other inequalities to be smoothed. Neither of these rollers was like an ordinary burnisher, or like the spinning tool used by Hayden. Pressed firmly against the revolving vessel, they smoothed its surface, and their effect is aptly described by the patentees by the word "*planer*"—to smooth or planish.

The tool used to round the angle, being adjusted and pressed against the vessel, required no other motion; but the tools for the bottom and sides, sustained in carriages adapted to slide in a path parallel with the surface to be smoothed, were moved by means of a screw passing through the tool carriage in the like parallel (or a cog-wheel acting thereon with a similar result), and terminating at the outer end by a crank turned by the hand of the workman, who thereby moved the tool faster or slower, backward or forward, at his pleasure. Though each tool was fixed to a separate carriage, the mechanical principle of each was the same, and they could be applied successively to the same lathe, or each to a separate lathe, as convenience and economy of the time of the workman might make most advantageous. It is this application of the tool to the article produced, while such article is placed upon its counterpart, and made to revolve, and the use for that purpose of the adjustable sliding-tool carriage, with a set screw to press the tool or roller against the metal, which constitutes the likeness of the machine to the machine of Hayden. But I am decided in my conclusion, already stated, that spinning the metal was not the intent or purpose of the machine, and that no such conception was in the mind of the patentees, nor was the machine adapted to produce that effect. Possibly, the pressure upon

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the metal might very slightly enlarge it, the operation being, in a degree, like passing metal between two pressure rollers; but this effect, if produced, was not desired or sought, but constituted an imperfection, rather than an advantage, to the perfect operation. It can not be denied that this device for smoothing the kettle, already complete in form, would be very suggestive to an ingenious mind already conversant with the art of hand-spinning on a lathe. It was a near approach to a device for spinning by a machine, but I think it clear that it stopped short of it.

It is earnestly insisted that although Japy brothers did not conceive the idea of spinning the metal by the machine, it is enough for the defendants to show that the machine which they invented had capacity to spin in the very manner of Hayden's, and that Hayden acquired no right as an inventor by making substantially the same machine, and putting it to a new and more beneficial use, namely, to spinning the metal into the desired form, although Japy brothers were wholly ignorant that any such capacity could be attributed to it. What I have already said expresses quite distinctly my conviction that their machine had, in truth, no such capacity, or certainly not in any such degree as made it useful, as Hayden's machine is useful, for spinning metals.

On the trial, some importance was attached to the title given by Japy brothers to their invention, "*une machine à rétreindre et à planer*," as in conflict with the conclusion above expressed. A translation of their patent was produced, made by one of the witnesses. no doubt in entire good faith, in which the above words were translated, in one place, "a machine to spin and smooth," and, in another, "a machine for spinning and smoothing." The translator, however, with entire frankness, explained that the word "*rétreindre*" did not, by its own mere force, mean "to spin," but that when used in connection with words indicating the employment of the lathe in stretching or extending metals, the whole, as, for example, "*rétreindre à la tour*" (to raise on or by a lathe), meant the process of spinning. When, therefore, on a perusal of the Japy patent, he observed that a lathe was used in a portion of the operation, he assumed that this title of the patent imported "*rétreindre à la tour*," although those words were not used. An examination of the whole patent shows that this conception of the translator was a mistake. The word "*rétreindre*"

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refers simply to the process of raising the sides, and that was done in dies or collars, and not on the lathe. In the supplement to the patent the word is used, and it is solely applied to the "raising" by punches and collars. In short, the word "*rétreindre*," in the title, is used to designate the process of raising by punches and collars or dies, and "*planer*" to the lathe process, namely, to smooth or planish. The terms employed by the patentees, therefore, are in no conflict with the conclusion stated, but tend rather to confirm it.

The defendants rely, further, on their alleged practical demonstration, made on the trial, that the Japy machine had capacity to spin metals, including kettles, whether Japy brothers knew it or not, and that, when so used, it was substantially the same in principle, structure, and operation as the machine of Hayden, except in the particular hereafter to be noticed, in which, also, the machines of the defendants differ from Hayden's. The machine which they had caused to be constructed, and which they produced as an example of the Japy machine, did, undoubtedly, reduce, on a small scale, a disk of metal to the form of a kettle, by compressing it upon a series of forms like those used by Hayden; but I was not then satisfied, and further examination and reflection have strengthened my doubt that such machine, constructed and operated as it was, did, in fact, in a just sense, spin the metal to the desired form. It did, unquestionably, extend the metal, and conform it to the shape of the form on which it was compressed; it may, in a slight degree, have spun the metal, but the extension of the metal was mainly by pressure, as if the metal were between two rollers, pressed with great force thereon while in revolution. This would be the effect of pressing a short revolving cylinder strongly against the revolving metal, sustained by the revolving form on which it was placed. It may not be easy to define with precision how, in that process called spinning, the atoms or particles of metal are made to move upon each other, so as to assume a new aggregate form; but, in the product of the machine exhibited on the trial, the surface of the metal was not moved—it was compressed, the inner and outer surfaces being brought nearer together, as in the process of rolling metals. Witnesses testified that it did spin; some of them that it spun imperfectly, imputing the effect, so far as it was entitled to be

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called spinning, to a change in the form or position of the tool used by Japy, made to bear on the surface of the metal.

I do not find it necessary to suggest any bad faith in the defendants, or in the expert under whose direction this machine was constructed, by imputing to them an intentional exhibition of a machine, as the Japy machine, which differed substantially therefrom, or of conducting an operation therewith differing materially from the operation of which the Japy machine was capable. They have failed to satisfy me that the machine which they did produce and set in operation is, as a practicable thing, useful for spinning metals, or even that it is capable, without modification, of spinning metals of the thickness required for the large vessels produced by Hayden's machine.

In confirmation of the suggestion that it was not by spinning, but by pressure, as between the two rollers of a rolling mill, that the extension of the metal was effected, it was a fact worthy of notice, as distinguishing the machine produced from the Japy machine, that the defendants added to the tool carriage of Japy brothers a powerful standard or post, containing a set screw, to hold the revolving tool or short cylinder more strongly upon the metal to be extended. For the purposes for which the Japy machine was used, to wit, to smooth the surface, comparatively slight force was requisite. When the machine was sought to be applied to a new use, this supplemental device, or some other equivalent thereto, was necessary.

It might be added that the product of the operation of the machine produced was less perfect than the similar product of the Hayden machine. The wrinkles caused by forcing the larger circumference of the disk upon the form were imperfectly removed, and I think there should be no hesitation in saying that an inspection of the two products shows that the machine of Hayden produces a different as well as a more complete result.

It was a pertinent and quite plausible suggestion of the counsel for the complainant that the inventor of a machine should be presumed to know not merely its purpose, but its capacity; that when the product sought was in great demand, the art of spinning upon a lathe well known, the best mode of producing kettles and like articles the subject of attention and study, the objections to the process of stamping known and appreciated, the fact that an in-

ventor of a machine, contrived expressly for the making of such articles, should have made a machine, and had no suspicion that it could raise the disk which he used to the required form by spinning, is no slight evidence that it had no such capacity; that the wisdom which comes to an alleged infringer after another inventor has perfected a similar machine by which the operation can be usefully performed, is not to destroy the claim to an original invention; and that an alleged example of a machine claimed to produce an effect which the original never did produce, and which its inventor never claimed for it, is to be looked upon with some distrust of its actual likeness to such original.

A doubt was created by the proofs, whether so much of the extension of the metal as could be imputed to spinning, in the operation of the machine produced, was not due to a slight change in the form of the tool or cylindrical roller used by Japy brothers, and to a setting thereof in contact with the metal obliquely in a small degree, so that the corner pressed against the same. These changes would conform the action of the tool more nearly to that of the Hayden machine. It is not essential that I should go further than to say that such doubt reasonably exists, upon the whole evidence. It is sufficient that, upon all the proofs, and especially for the reasons I have stated, I am convinced that the invention of Japy brothers had neither design, purpose, nor capacity to effect the results produced by Hayden's machine; and it is, therefore, upon all the grounds which are above suggested, not established that Hayden was not the first inventor of the machine described in the complainant's patent. It is hardly necessary to add that the burden rested on the defendants to establish this, if they rely on want of novelty as a defense, as the patent itself is *prima-facie* evidence that Hayden was such first inventor.

2. The second ground of defense does not depend so much upon any disputed question of fact as upon the proper construction and legal effect of the patents granted to the complainant for the invention of Hayden. The defendants deny that they have infringed the patents. To make the foundation of this denial intelligible, the two principal parts of the Hayden machine have been already described, namely: an ordinary engine lathe, with a form attached to the mandrel, a clamp attached to the spindle, and other devices to facilitate the operation, which have been suffi-

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ciently referred to ; and, second, an adjustable tool carriage, sustaining and guiding a burnishing or spinning tool in a definite prescribed path, pressing the tool against the disk of metal operated upon. To the actual working of the machine, it is essential that, when the form and disk of metal are revolved in the lathe, the tool should also be moved in its prescribed path, as already, with some particularity, stated. The patentees, in the specification, describe the Hayden machine as self-acting. The tool carriage is moved by a screw acting upon the tool carriage. As the screw is turned one way or the other, the carriage, and, of course, the tool sustained and guided thereby, is drawn in the desired direction along the face of the metal to be operated upon, in proper proximity to the form on the mandrel, and for this purpose this screw is connected, by a gear-wheel, with the power which moves the lathe, so that both move together and by the same power.

The difference between this arrangement and that employed by the defendants in the machines claimed to be infringements of the complainant's patent, which is chiefly relied upon, is this—the rod which moves the tool carriage in the defendants' machine is connected with a cam turned by a gear-wheel, and a crank moved by the hand of the workman, instead of a screw and gear-wheel acted on by the power which turns the lathe. The lathe, the form, the clamp, and their adaptations to this particular service, are substantially the same. The tool carriage, tool post, and tool are substantially the same. The tool is sustained, guided, and directed by slides and guides, differing in some details, but, for the purposes of this question, substantially the same. The tool is pressed against the revolving disk by a set screw, in the same manner. And the path in which the tool must travel is definitely prescribed by an adjustment of the slides and guides in the same manner, in substance, as in the Hayden machine. The tool is made to move, in the Hayden machine, by a screw acting on the tool carriage for that purpose ; in the other, it is made to move by a cam. In Hayden's machine, the screw is turned by the power of the machine, acting through a gear-wheel ; in the machine constructed and used by the defendants, the cam is turned by a crank or crank-wheel, moved by the hand of the workman, acting through a gear-wheel on the cam. Hereupon,

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two questions may be propounded : first, does this difference relieve the defendants from the charge of appropriating the invention of Hayden? and, second, is their machine an infringement of the letters patent? The latter is the important question here ; for it was correctly insisted by the counsel for the defendants that it might be true that Hayden was the first inventor of the patented machine, and the defendants might have appropriated the product of his inventive skill, and might be in the actual use of his invention, and yet the letters patent granted for his invention may be, and the defendants insist that the letters patent, or the specification and claim, are, in fact, expressed in such terms, and are thereby so restricted in their legal effect, that the patent itself is not infringed.

Where no patent is granted, the invention, however novel, ingenious, or useful, may be used by any one ; and, when a patent is granted, the patentee must stand by his patent. He gains no exclusive right, except for such a machine as his patent describes and secures, though it may be far less broad or comprehensive than his actual invention. That the defendants' machines are within the actual invention of Hayden, seems to me to admit of no doubt. Its scope and its substance were the application of mechanism to the process of spinning metals to form, so as to produce a result theretofore never attained by mechanical means. The mechanical instruments, their arrangement, and their adaptation to the result were devised, brought into their proper relations. The requisite motion of the parts of the machinery was fully conceived. It was thenceforth in no wise essential to any principle involved in the invention, by what means motion was communicated to the machine, or either of the parts. It was only necessary to the successful operation of the machine, and to the certain production of the desired result, that the parts of the machine should move at the same time ; that the lathe should revolve, with the form and the disk clamped thereon ; and that the tool should also move in the path mechanically prescribed thereto. In the principle of the machine, or of its operation, it made not the slightest difference whether the lathe and the tool carriage were acted upon by the same power ; whether the movement of the tool carriage was taken from the pulleys of the lathe, or from

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other belts and pulleys driven by the same engine ; whether the movement of the lathe was by the power of one engine, and the movement of the tool carriage by the power of another. It sufficed if there was power applied adequate to move both, from whatever source derived. The source of power was no part of the invention. The means of producing motion in the lathe were the ordinary means, by belt, pulleys, or equivalent instrumentalities. The specific means of moving the tool carriage was the screw. Any mechanical means of moving the tool, under the sustaining, guiding, and directing influence of the devices for those purposes, would have been within the just scope of Hayden's invention. Movement, under pressure against the disk, and in the definite path prescribed to it, was the only essential ; the substitution of one motor for another being a change only, without a substantial difference in the substance of the invention. One mode of producing the motion might be better than another ; a party might improve upon any mode suggested by Hayden, and might patent his improvement ; but the substance of Hayden's invention would still consist in his machine, however set in motion by power adequate to its operation.

It, however, remains to consider, next, whether the defendants infringe the patents actually granted to the complainant. What is claimed in the specification as the invention of Hayden has already above been recited, and it is equally descriptive of the defendants' machines, unless the application of power derived from man, instead of the revolving lathe pulleys, constitutes a substantial difference, as that term is used in the law of patents.

Their machine or device consists of the application of a rotary metallic form or mold, or successive forms or molds, in combination with the proper tool or tools, roller or rollers, sustained, moved, and directed in a proper path by competent mechanical means, for the purpose of operating on a disk, blank, or plate of metal, so as to reduce it gradually from the center to the edge, at the same time forming it with straight sides, by successive stages, into a complete kettle, or into any similar article, to the forming of which such an apparatus can be applied ; and, so far, this is precisely what is claimed and, I think, shown to be Hayden's invention. The claim in the patent is the application of these instrumentalities, "substantially as described and shown" in the

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preceding specification ; and the defendants insist that the terms of the claim so limit the operation of the patent, that the manner in which the defendants employ these instrumentalities is without the patent, and that they do not use them "substantially as described and shown," because they do not draw the power which moves the tool carriage from the engine which moves the lathe, but supply it by the hand of the workman, through a crank. The argument of the defendants' counsel did not present the point in the bald terms just stated, but I think that, when applied to the case in hand, that is its true expression.

In one of these machines, the turning and reversing of the screw moves the tool carriage and tool forward and backward in its prescribed path ; in the other, the turning and reversing the cam does the same. In both, the motion is communicated through a gear-wheel, the power that turns the lathe acting thereon in one case, and the power of the workman, through a crank, in the other. It was not claimed, on the trial, that the mechanical means for producing the actual movement of the carriage and tool were not substantially the same. It could not, with propriety, be so claimed. The proof was that they were the same, or precisely equivalent, excepting, only, that the power applied was drawn from a different source.

It is true, that the specification describes the Hayden machine as automatic ; and such is the effect of connecting the tool carriage with the power that turns the lathe. But this is merely incidental. It is in no sense essential to the machine, as an operative instrument to spin the metal and produce the article desired. It was necessary that the patentee should describe the means he employed to effect the process, and he has done so. But it was not of the essence of the invention, or of the means employed to apply it to use, that it should be automatic. Connecting the tool carriage with another power, producing like motion, would be precisely equivalent—producing the same precise operation of the effective parts of the machine, and the same precise effect upon the disk of metal to be converted into the kettle, or other article. Many of the observations already made concerning the scope and essential features of the actual invention are pertinent to this point.

The positions assumed in behalf of the defendants, and most

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ably and ingeniously urged upon my attention, lead to this: Where a patentee describes a completed machine, however complicated, novel, and useful in its combinations, and effective in those parts which alone have any peculiar influence in producing the article to be manufactured, but describes his machine as receiving motion through a gear-wheel, from a shaft common to the entire machine, any other party may construct and use a machine in precise likeness thereto, if he omits the connection of such gear-wheel with the shaft, and substitutes a crank to be turned by extraneous means. I can not regard this as the effect of the words of the claim, "substantially as described and shown." They relate only to material features of the combination specified, and these are to be ascertained by considering the object or purpose of the machine, and what are the elements of the combination which create its distinctive character, and are effective in producing the peculiar result for which the contrivance is made. When these are ascertained, whatever embraces those elements, in the same combination, is an infringement. Those elements so combined constitute the machine patented, and "substantially as described and shown" is satisfied when another machine embodies those elements, thus combined. In this, the machine is complete, within the just and proper construction of the patent, before it is set in motion, and the source from which power to move it is derived is wholly immaterial; and, therefore, the instrument, out of the many ordinarily used to communicate the motion, that is, connect the power to the machine, is also immaterial. It is no distinctive feature of the machine. Any instrument adapted to receive the power, whether crank, pulley, cog-wheel, or screw, is equivalent, in such a case. The particular instrument which the patentee uses is not an essential feature in the subject of the patent.

The defendants insist that no part of the complainant's machine was new; that that machine, and all of Hayden's invention, consisted of a combination of old elements; and they, therefore, invoke the principle, perfectly well settled and familiar, that, where a patent is granted for a mere combination of old devices to produce a new result, such a patent is not infringed by one who produces the same result without using all the devices which are included in the combination patented. *Prouty v. Ruggles*, 16

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Pet. 336, 341; *Vance v. Campbell*, 1 Black, 427; *Eames v. Godfrey*, 1 Wallace, 78, 79; *Byam v. Farr*, 1 Curtis' C. C. 260, 265; *Foster v. Moore*, Id. 279, 292; *Doubleday v. Bracheo*, 2 Fisher's Patent Cases, 560; *Bliss v. Haight*, 3 Id. 621.

In any proposed application of this principle, it should be borne in mind that, in a certain sense, nearly all new machines are but combinations of old devices—that is to say, they do, or may combine frames, bolts, screws and nuts, rods and pulleys, cranks and wheels, levers and pins, nails and boards, and, as the case may be, various other and more complicated devices, none of which, regarded singly or separately, are new; and yet the machine formed by the combination is new as a structure, new in its operation, and new in the effect produced. The patent in such case is not for a mere combination, under the rule above referred to; and another machine, having the like construction, operation, and effect, in all that constitutes the principle of the machine and the efficient means of its operation, is an infringement of the patent, notwithstanding it may be moved by a less number of wheels, or be held together by a less number of clamps, screws or nails, bolts or keys, and notwithstanding drum and pulley may be substituted for cog-wheels or other gear, or bolts for screws and nuts, or like changes be made in other devices employed to construct the machine. Such machine, notwithstanding such changes, is substantially the same in its patentable characteristics, and would be, within the terms of the specification, “substantially as described.”

This is true, in my opinion, of the machines used by the defendants, in their relation to the complainant's patents. They appropriate its essential features, and employ the same process to which the metal is subjected in the manufacture.

✓ The complainant's patent is not strictly for a combination, but rather for a machine or a process wrought by a machine. / Like all machines, it is constructed by combining elements or details. In its distinctive features, as a machine for the purposes described in the claim, and as a process of making kettles; it has been copied by the defendants. In the very particular which was claimed to distinguish their machine, namely, an arrangement for the movement by and under the control of the workman, its structure is within the description of the complainant's patent. The tool is

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moved, as well as guided and directed by mechanical means. The power alone is different. It may be true that there is an advantage in having the motion of the tool under the control of the workman. Witnesses so testified. Whether such advantage counterbalances the convenience and labor-saving of the power of the engine is not very material; but if, in this respect, the device used by the defendants is an improvement, it can not justify the use, in substance, of the complainant's machine.

Another observation, although not essential to my views, is, if I have not misunderstood the structure and operation of the Hayden machine, quite significant in showing a more complete likeness between the two than has hitherto been assumed. Although the Hayden machine may be operated automatically, it is not true that the motion of the tool is not under the control of the workman and by his hand. It was claimed that this feature in the defendants' machine was not only an advantage in enabling the workman to linger upon parts of the metal which might be found to require longer spinning, but that this was a distinctive peculiarity. Unless I have misunderstood the construction of the Hayden machine, that also is furnished with a lever under the hand of the workman, by means of which he can, at any moment, by disconnecting the gear, arrest the forward motion of the spinning tool, and so spin longer in any place where it is found necessary. In practice, my observation constrains me to doubt the practical importance of this feature, but, as matter of mechanical arrangement and capacity, it may not be unworthy of notice.

In the course of the trial, a fact was stated, in respect to which the expert witnesses differed, which, it was suggested, might affect the determination of the case. It was this: that the sliding tool carriage in the defendants' machine does not move the tool in a perfectly straight line, but in a line very slightly curved, by reason of which the sides of the defendants' kettles are, in a barely perceptible degree, thinner at about half the distance from the bottom than at the top. The degree will depend upon the length of the longitudinal arm of the slide and the height of the side of the article to be made. Such a thinning of the side is not a result of the process desired or desirable. It is, at most, an imperfection in the particular kind of sliding carriage which the defendants employ. Without entering into a detailed explanation,

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or occupying further time in the discussion of the point, it must suffice to say that this circumstance does not render the defendants' machine no infringement. It embodies the principle, process, and substantial means which the Hayden machine embodies, and operates substantially in the same way, though, it may be, less perfectly.

I am aware that I have been led to a discussion in this case of most unreasonable length, and yet there are some other considerations on both sides which might be suggested. I trust that in my deliberations I have not overlooked any which are material to the result, whether here stated or not. The importance of the case to the parties; the learning, skill, and ardor exhibited by the respective counsel; the interesting nature of the questions; some desire on my part that parties should be assured that the case is not decided without careful examination and deliberation, and that the precise grounds of decision may be fully exhibited; and, especially, the want of time (when other cases already argued demand my attention) to rewrite and abbreviate the opinion, must explain, if it do not excuse, so great prolixity.

I purposed adding some observations on the proposition of the defendants that, if they have not infringed the patent for the machine, they can not be held to have infringed the patent for the product, or the kettle, etc. The conclusion reached upon the other branch of the case renders this now unnecessary. I desire, however, for the present, not to be taken to assent to the proposition in this case, even though I should express no dissent. A patent may be good for a product, although no patent has been obtained for the machine or process by which it is produced. So, a patent may be good for a product, even though the inventor has received a patent for the machine or process, which, by reason of imperfection in the specification and claim, fails to cover the whole invention. Where the patent for a product is accompanied by a specification which does, in fact, describe the machine and process, so as fully to satisfy the requirements of the law, and enable any one of proper skill in the arts to produce the article patented, by the means described, the patent for the product may be good, even though the same specification, annexed to a patent for the machine, might not fully secure the patentee against the use of his actual invention, because the claim was narrower than the

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invention, or because the claim was too broad, or was otherwise imperfect and ineffectual. In such case, the patent for the product might possibly be infringed, although no action could be maintained based on the patent for the machine.

The complainant is entitled to a decree for an injunction and account, as prayed in the bill of complaint.

THOMAS J. WOOLCOCKS

vs.

FRANCIS MANY ET AL. IN EQUITY.

The first claim of the letters patent granted May 24, 1870, to Thomas J. Woolcocks, for an "improvement in speaking-tube whistles," namely, "in combination with the cylindrically formed barrel A, the stem F having the reacting spring G attached to it, and operating on the outside of the barrel, as hereinbefore described, and for the purposes set forth," is infringed by a combination consisting of the barrel, stem, and spring, the spring being attached to the stem, and operating on the outside of the barrel, and the barrel being octagonal instead of cylindrical, the combination being, in all other respects, the same, and the octagonal form possessing all the advantages of, and being the equivalent of, the cylindrical form, as contradistinguished from the previous square form.

(Before BLATCHFORD, J., Southern District of New York, September, 1871.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for an "improvement in speaking-tube whistles," granted to complainant May 24, 1870. A description of the invention and the claims will be found in the opinion of the court, and will be readily understood by reference to the engravings. In the infringing device, the barrel marked A was octagonal in form, but the spring, G, was placed on the outside; while, in the tubes made prior to the complainant's patent, the barrel was square, and the spring was placed within it.



Charles F. Blake, for complainant.

Jonathan Marshall, for defendants.

BLATCHFORD, J.

This suit is founded on letters patent granted to the plaintiff May 24, 1870, for an "improvement in speaking-tube whistles." The patentee, in his specification, says: "My invention relates to certain improvements in the manufacture of speaking-tube whistles, for which a patent was granted to myself and partner May 4, 1852, and extended for the term of seven years, from and after May 4, 1866. In the invention thus patented, the barrel was made square, and the spring attached to the rod operating the whistle secured to the inside of the barrel, thus making it difficult to get at the whistle to repair, should the spring break, and at the same time requiring a large unsightly barrel or box (more properly) to admit of the working of the spring thus arranged within it." He states that his invention consists, "first, in applying the spring to the rod or stem for operating the whistle on the outside of the cylindrical barrel, so as to be accessible at all times for repairing without taking the whistle barrel to pieces; second, in forming a solid flange or hinge to the edge of the valve or top plate of the whistle, for supporting or holding the spring, rod, or stem when attached thereto, in contradistinction to the old method of making the valve-plate of the whistle by soldering an independent flange or hinge thereto." Figures of drawings accompany the specification, and it gives a description of the construction of the parts of the apparatus which embody the improvements. The barrel or box which contains the whistle is stated to be cylindrical in form, in contradistinction to being square. The invention covered by the patent of 1852 is the introduction of an alarm valve or whistle into the speaking-tube. This valve closes the mouth of the tube when the tube is not in use, being held to its place by a spring. There is a mouth-piece at each end of the tube. Immediately behind the mouth-piece is a chamber con-

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taining the valve. The valve is a hollow disk, formed so as to produce a whistling noise by means of an orifice through it, whenever a strong current of air is impelled through. The valve is attached to a spindle, which has a handle worked from the outside, so as to raise the valve against the action of the spring when it is desired to use the tube. The person desiring to speak raises the valve and blows through the tube, and thus sounds the whistle at the other end, and attracts the attention of the person to be spoken to, who, by raising the valve at his end, enables a conversation to be held through the tube. The patent of 1852 represents the barrel or box containing the valve as being square in form, and the spring as being coiled around the spindle inside of the barrel. In the patent of 1870, the upper one of the two concave perforated disks which form the valve-whistle has around it a marginal flange, which, at one side, is doubled in width, so as to form a solid hinge piece, to which the stem or spindle for operating or raising the valve may be attached. The specification states that, previously, the hinge piece had been formed separately and soldered to the edge of the flange, and that then the stem or spindle was soldered to the hinge piece. In the patent of 1870, the spring for keeping the valve shut is a spiral spring, coiled around the stem on the outside of the barrel, and thus accessible at all times for repairs. The claims of the patent of 1870 are as follows: "1. In combination with the cylindrically formed barrel A, the stem F having the reacting spring G attached to it, and operating on the outside of the barrel, as hereinbefore described, and for the purposes set forth. 2. The disk B, having a solid flange D and hinge piece E attached thereto, as hereinbefore described, and for the purposes set forth."

The speaking-tube sold by the defendants, and alleged to infringe the patent, has, in combination with a barrel containing the valve, the stem having attached to it a reacting spring, operating on the outside of the barrel, such combination being in all respects the same as that covered by the first claim of the patent, except that, in the defendants' tube, the barrel or box is octagonal, instead of cylindrical. But, in the combination, the octagonal form, as contradistinguished from the previous square form, is the equivalent of the cylindrical form, as contradistinguished from the previous square form. The evidence shows that the octagonal form possesses all the advantages which the

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cylindrical form has. There can be no doubt, therefore, that the defendants' tube infringes the first claim of the plaintiff's patent.

The infringement of the second claim is not established. The mode used by the defendants, of attaching the stem to the valve, appears to be a mode that was used for that purpose in making tubes under the patent of 1852, before the plaintiff made his inventions covered by the patent of 1870, and not to be the mode described by the plaintiff in that patent.

The defense that the plaintiff abandoned his inventions is not made out.

There must be a decree for the plaintiff for a perpetual injunction and an account of profits, as respects the first claim of the patent.

NATHAN A. BALDWIN, JAMES H. PRENTICE, ET AL.

vs.

JOSEPH SCHULTZ AND LEOPOLD HECHT. IN EQUITY.

Letters patent for an "improved fabric for hats, bonnets, etc.," were granted to Henry Loewenberg, February 28, 1865, and reissued to the Modena Hat Company, April 30, 1867: *Held*, that the claim of said reissue for "the new compound fabric hereinbefore described, having, substantially, a foundation of interlaced threads, and a surface composed of fibrous material, stiffened by gelatinous matter and consolidated by pressure," was not infringed by the use, as a fabric, of muslin, having interlaced threads, but no surface of fibrous material, either as part of the fabric, or artificially applied.

Letters patent for an "improved compound for coating textile fabrics for manufacture of hats and bonnets" were granted to John L. Kendall and R. H. Trested, February 9, 1869: *Held*, that the claim of said patent for a compound composed of zinc white or its equivalent, or lead ground in a colorless or inodorous oil, such as castor oil or collodion, was not infringed by the use of a compound not containing oil or collodion, but containing zinc white, starch, glue, glycerine, and damar.

In the claim of the letters patent granted to S. A. Blake, December 24, 1861, for an "improvement in bonnets," to wit, "a bonnet, cap, or other head covering, the body of which is made of two or more thick-

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nesses of muslin, or other suitable fabric, shaped or formed with a series of raised or embossed stripes, in imitation of straw or other braid, by means of suitable dies, in the manner herein set forth," the word "body" means a part of the bonnet, which does not include the tip or crown-piece of the bonnet, and means that part of the bonnet to which the tip is united in the finished bonnet.

This invention is not anticipated by a hat in which the piece for the sides is embossed separately from the crown and the brim, by passing it between a presser-roller and an engraved metallic roller.

Nor by any construction of hats in which the surface is not embossed in imitation of straw or other braid.

The vague suggestion in a prior patent, that any device capable of being produced by stamping, may be applied to the hat by engraving or otherwise preparing the matrix and plunger to produce the effect required, is too general and indefinite.

The burden of proof is on the defendants to show the actual prior existence of a head covering answering the description of the complainants' patent.

According to the description in the specification of the Blake patent, the product of the action of the dies is the completed body of a bonnet, embossed in imitation of straw, and fit for use as the body of a bonnet, in the shape given to it by the dies, and without further ornamenting or covering its surface, and is not merely a frame, carcass, or skeleton, requiring to be afterward covered or ornamented, to make its exterior surface so comely and presentable as to be salable as a bonnet, and is not merely a fabric having the completed exterior surface necessary in the bonnet salable as such, but not shaped into its ultimate shape by dies, and requiring further manipulation to put it into such ultimate shape.

The proper construction of the claim of that patent is, that it claims a bonnet, the body of which is embossed in imitation of straw or other braid, by dies, which, at the same time, give to it its ultimate shape, such body being made of two or more thicknesses of muslin or other suitable fabric, united by starch or other suitable adhesive and stiffening substance.

The article produced according to the Blake invention is new and useful, an improvement in the trade, and patentable.

It is an infringement of the Blake patent to make a bonnet of three thicknesses of muslin, united by starch and shaped by dies, which, at the same time, emboss it in imitation of straw braid, although a coating is put on the muslin-frame before it is subjected to the final action of the dies.

After a decision on final hearing, it having been discovered that the specification of a prior foreign patent, relied on in the decision, was not, in

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fact, the specification of the prior patent, but of a subsequent one, the case was reopened for further proofs and a rehearing.

(Before BLATCHFORD, J., Southern District of New York, September, 1871, and March, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought on three several letters patent, the property of complainants. 1. Letters patent for an "improved fabric for hats, bonnets," etc., granted to Henry Loewenberg, February 28, 1865; assigned to the Modena Hat Company, and reissued to them April 30, 1867. 2. Letters patent for an "improved compound for coating textile fabrics for manufacture of hats and bonnets," granted to L. Kendall and R. H. Trested, February 9, 1869; and, 3. Letters patent for an "improvement in bonnets," granted to S. A. Blake, December 24, 1861.

The nature of the inventions in controversy is sufficiently set forth in the opinion.

S. J. Gordon, for complainants.

T. B. Hewitt, for defendants.

BLATCHFORD, J.

This suit is brought on three letters patent. 1. A patent granted to S. A. Blake, December 24, 1861, for an "improvement in bonnets." 2. A reissued patent granted to Modena Hat Company, as assignee of Henry Loewenberg, the inventor, April 30, 1867, for an improved fabric for hats, bonnets, etc., on the surrender of an original patent granted to Loewenberg, February 28, 1865. 3. A patent granted to John L. Kendall and R. H. Trested, February 9, 1869, for an "improved compound for coating textile fabrics for manufacture of hats and bonnets."

The defendants are manufacturing and selling stamped hats made in imitation of straw braid. Such hats are made by the following process: The frame is made of three-ply buckram, that is, three thicknesses of muslin, united by starch, formed into the shape of a hat, by the use of smooth heated dies of the desired shape. The frame thus formed is then coated with a compound made of two parts of zinc white and one part of boiled

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starch, to which is added a mixture of glue and glycerine (consisting of twenty parts of dissolved glue to one part of glycerine), equal to one-half of the quantity of starch used. After these ingredients have been thoroughly mixed together, there is added one one-hundredth part of damar, which has been previously dissolved in benzine. The whole mixture is then passed through a paint mill, and is then applied with a brush to the outside of a buckram hat frame. Two coats of the compound are thus applied, and, before the second coat has become dry, a small quantity of powdered soapstone is shaken through a sieve over the outer surface of the compound. After the hat has become dry it is subjected to the pressure of two cold dies, which are of the same shape as the hat, except that the lower die or female die, which comes in contact with the outer surface of the hat, is engraved in imitation of straw braid. The male die, or upper die, is smooth. The hat, with the compound upon it, is placed in the engraved female die, and a square piece of India rubber, large enough to cover the whole inner surface of the hat and to come out beyond the brim of the hat, is laid over the inner surface of the hat. The upper, or smooth die, is then brought down with great force on the India rubber, which regulates the pressure, and makes it uniform over the entire surface of the hat. By this means the surface which has upon it the compound is pressed into the engraving of the female die, and takes and retains the counter shape of the female die. It is claimed that the defendants, in making and selling hats made by the process thus described, infringe the three patents referred to.

The reissued patent of 1867 to the Modena Hat Company claims "the new compound fabric hereinbefore described, having substantially a foundation of interlaced threads, and a surface composed of fibrous material, stiffened by gelatinous matter, and consolidated by pressure." The specification indicates cotton flannel as a material consisting of interlaced threads, covered with a fibrous material. To stiffen such material by gelatinous matter, it suggests saturating it with the glutinous solution in water of soluble glass, and drying the saturated cloth. To consolidate the material by pressure, it suggests the action on it of a die or dies placed in a suitable press. The foundation of interlaced threads is described as giving strength to the fabric. The saturated

fibrous material is described as forming a pulpy layer, capable of receiving and retaining a highly embossed surface.

It is manifest that the defendants do not infringe this patent. Although they use muslin which has interlaced threads, yet their fabric has no surface of fibrous material. They do not use cotton flannel, nor do they put upon their muslin an artificial surface of flock or ground cotton.

The patent of 1869 to Kendáll and Trested describes and claims, as their invention, a compound to be applied as a facing or coating to buckram frames and similar textile fabrics, and to paper. The ingredients of this compound are stated to be white French zinc, or its equivalent, or lead ground in a colorless and inodorous oil, such as castor oil and collodion, made by dissolving in ether, gun cotton saturated with alcohol. The mixture forms a thin, white paste, and its merit is described as consisting in the fact that, when applied with a brush as a coating, it dries almost instantly, has a soft, polished surface, is pliable, can be struck up by dies without injuring the surface, and is water-proof.

The defendants do not use this compound. Their compound contains no oil and no collodion. The patentees add to zinc white, oil, and collodion. The defendants add to zinc white, starch, glue, glycerine, and damar. In using this compound, the defendants do not infringe the Kendall and Trested patent.

The serious contest in this case is as to the Blake patent. The specification of that patent says: "This invention consists in a bonnet, cap, or other head covering, the body of which is made of two or more thicknesses of muslin or other suitable fabric, united by some adhesive and stiffening substance, and shaped and formed into a series of raised stripes, by means of suitable dies, in such a manner that the sewing together of said stripes is obviated, and that such bonnet, cap, or covering is a perfect imitation of the ordinary bonnets or caps made by sewing together a large number of narrow braids of straw or embossed stripes of muslin. In order to form a bonnet, I make a sheet by uniting two pieces of muslin or other material, by means of starch or other suitable adhesive material. I prefer rice starch for this purpose, as it makes a good stiffening. I then cut from this sheet a single piece, or two pieces of proper shape, to form the bonnet and tip; and, after dampening them and putting them as nearly

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as practicable into form, over a suitable mold or former, I subject them to the action of suitable dies, which may be inserted into a press such as represented in figure 4. The female die is provided on its inner surface with a number of creases or grooves, formed according to the stripes to be produced on the bonnet. The male die is perfectly smooth on its upper surface, and it is covered with a layer of paper, mill board, or other suitable material, which, when exposed to the pressure of the female die, will readily adapt itself to the inner surface of said die, the whole being arranged similar to the machinery generally used for embossing paper, leather, etc. The blank is now placed upon the male die, and the female die is brought down by means of a screw, so that the fabric assumes the shape of the male die, and, at the same time, the desired stripes are embossed on the surface. When taken from the press, the surface of the fabric presents a series of stripes, *a*, such as represented in figures 2 and 3 of the drawing, resembling closely the stripes or braids from which ordinary straw bonnets are made. In forming a bonnet, cap, or other head dress, by this process, it is indispensable that the blank, which is to form the body of the bonnet or other head covering, is cut open on one side, in order to place it on the die in such a manner that all its parts are exposed to the action of the dies. The tip, which may be pressed or embossed separately from the body of the bonnet, or simultaneously with it, is cut out and inserted after the ends of the body have been joined. The embossing itself gives to the muslin or other fabric the required stiffness, and a bonnet made according to my invention is superior in lightness, and in its graceful look, to bonnets made according to the ordinary method; and, furthermore, much time is saved, since the sewing together of the several stripes is obviated. It is obvious that, by changing the form of the dies, bonnets of different shapes, or caps, or other head coverings, can be made in a manner similar to the one above specified. I do not claim as my invention the within described manner of embossing muslin, substantially the same method having been practiced long ago; but, having thus fully described my invention, what I claim as new and desire to secure by letters patent is: A bonnet, cap, or other head covering, the body of which is made of two or more thicknesses of muslin, or other suitable fabric, shaped or formed with a series of raised or em-

bossed stripes, in imitation of straw or other braid, by means of suitable dies, in the manner herein set forth."

The first question is as to the proper construction of the claim of the Blake patent. It is to be observed that Blake puts no coating or covering upon the exterior surface of the fabric of his head covering. The stripes are embossed directly upon one of the thicknesses of muslin. It is also to be noticed that the specification of the patent draws a distinction between the body of the bonnet and the tip or crown piece of the bonnet. According to the language used in the specification, the body and the tip taken together form the bonnet. The sheet, made of two or more thicknesses of muslin united to each other by a suitable adhesive material, is the sheet from which the body and the tip are cut, either in a single piece or in two pieces. The claim is to a bonnet, in which the body thereof is made of two or more thicknesses of fabric, shaped or formed with a series of raised or embossed stripes, in imitation of straw or other braid, by means of suitable dies, in the manner set forth. The word "body," in the claim, must be construed to mean a part of the bonnet which does not include the tip and that part of the bonnet to which the tip is united in the finished bonnet. It is the "body" which is to be made of two or more thicknesses of muslin or other suitable fabric, and it is the "body" which is to be shaped or formed with a series of raised or embossed stripes, in imitation of straw or other braid, and it is the "body" which is to be so shaped or formed by means of suitable dies, in the manner set forth in the specification.

The defendants have put in evidence six prior patents as affecting the Blake patent, to show the state of the art as bearing on the question of the construction of the specification of that patent, and to be used to attack the novelty of Blake's invention, and to aid in determining the question of the infringement of that patent. The date of Blake's invention is shown to be the very end of the year 1859. The six patents referred to are as follows: 1. English patent to Alexander Daninos, dated February 4, 1829; specification enrolled August 4, 1829, for an invention "for the manufacture of improved hats and bonnets in imitation of Leghorn straw hats and bonnets." 2. English patent to Richard

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Archibald Brooman, dated April 11, 1854; specification enrolled October 9, 1854, for an invention "for improvement in the manufacture of hats." 3. Letters patent of the United States, granted to William Osborn, August 19, 1856, for an "improvement in machinery for pressing bonnets and bonnet frames." 4. English patent to Gustavus Palmer Harding, dated July 14, 1857; specification enrolled January 14, 1858, for an invention "for improvements in the manufacture of hats, caps, and other coverings for the head." 5. French patent to Roger and Ledion, granted September 15, 1859, for the invention described in the English letters patent to Marc Antoine Francois Mennons, next mentioned. 6. English patent to Marc Antoine Francois Mennons, dated November 13, 1860; specification enrolled May 8, 1861, for an invention "for an improved manufacture for coverings for the head," being a communication from Gustave Victor Roger, a resident of France.

The Daninos patent employs two or three thicknesses of woven material, glued or cemented together, and treated by a water-proof composition. The hat is made of three pieces, the brim or rim being one piece, the sides another piece, and the top or crown another piece. Each piece is embossed or figured with an imitation of the plaiting and sewing seen on the surface of a real Leghorn straw hat. The brim or rim is embossed on both sides, an engraved plate being used for each side, and the embossing being done simultaneously by the two plates. The piece for the sides is embossed by being passed between a brass roller engraved with the design and a hard wood roller covered with pasteboard. The piece for the crown is embossed by a brass plate. The top of the sides is glued or cemented to a rim which is turned up at the outer circumference of the crown, and the sides are also cemented or glued to a rim turned up on the brim. The characteristic distinction between a hat made according to the Daninos patent and the hat claimed in the Blake patent is, that the body of the Daninos hat is not formed or shaped with embossed stripes by means of dies. The dies, which act in conjunction with each other to emboss the body of the Blake hat, give it its ultimate shape at the same time that it is embossed—the shape it has as the body of the completed hat, in the completed hat.

The Brooman patent describes a water-proof hat made of two

thicknesses of felt cloth with a sheet of gutta percha between them, formed into a hat by pressure in a mold, while the gutta percha is in a plastic state. The hat is not embossed in imitation of straw or other braid, nor could it be.

The Osborn patent describes a machine to form, by the pressure of two dies, all kinds, shapes, and sizes of bonnets and bonnet frames, the dies being heated and the article being formed by a single impression. It is sufficient to say that this patent does not describe a hat made of two or more thicknesses of fabric, nor a hat embossed to imitate straw or other braid.

The Harding patent describes a process of making hats by stamping or pressing them into form between a hollow heated matrix and a hollow heated plunger. The material is described as being "cloth, velvet, plush, and other similar materials," dressed with a solution of adhesive material. The specification says that, "where requisite, a lining may be stamped up with the cloth at the same operation that a water-proof solution or composition may be used to cause adhesion when the lining is employed," and that "it will be readily understood that any pattern or device, capable of being produced by stamping, may be applied to the article to be formed by engraving or otherwise preparing the matrix and plunger to produce the effect required." There is not in the Harding patent any suggestion of a hat embossed in imitation of straw or other braid. It is very questionable whether such an embossed imitation could be made on cloth, or velvet, or plush, or other similar material, even when dressed as suggested by Harding. The vague suggestion that any device which is capable of being produced by stamping may be applied to the hat, by engraving or otherwise preparing the matrix and plunger to produce the effect required, is too general and indefinite. The burden of proof is on the defendants to show the actual prior existence of a bonnet or other head-covering answering the description of the claim of the Blake patent; and the Harding patent fails to show this.

The Roger and Ledion patent and the Mennons patent (the latter being subsequent in date to Blake's invention) describe a hat made to imitate straw, by compressing it in an electrotyped mold. A composition is made of collodion, pulverized cotton, and castor oil, forming a pasty mass. The mold is obtained by de-

positing copper on the outer surface of a straw hat by the electrolytic process. The specification says: "The carcase of the hat or bonnet, formed in the ordinary way, of any convenient tissue, is coated on all sides with the plastic composition above described, and left to dry, after which it is placed in the electrolytic mold," and operated upon in a press, the inside of the hat being filled with disks of vulcanized caoutchouc, which act as an elastic piston, and force the plastic mass into the interstices of the mold.

The strength of the defendants' case is mainly rested on this Roger invention, communicated to Mennons. Criticism is made by the plaintiffs on the Roger specification, that it gives no description, suggestion, or hint that the body or carcase of the hat is to be made of two thicknesses of material, so as to form one compound body, such as is described in the Blake patent, and that it teaches that the carcase is to be formed before it is pressed between the embossing mold and the piston, and not that it is to be shaped by such pressure. To show what was understood in the art at the date of the French patent, September, 1859, by the expression in the specification of that patent, "the carcase of the hat or bonnet, formed in the ordinary way, of any convenient tissue," the defendants have introduced evidence proving that, as early as 1857, hat or bonnet frames were made of two or more thicknesses of muslin, stuck together by paste, and stamped into the shape of a hat, by means of smooth dies, at one operation, the hat or bonnet frame, when completed, being seamless, and consisting of two or more thicknesses of muslin throughout. The frame thus stamped into the shape of a hat is the carcase of the hat, formed of a tissue, and must be regarded as being included in the word "carcase," as used in the Roger specification. In regard to shaping the hat, Blake says, in his specification, that he first puts the cut-out pieces, as nearly as practicable, into form, over a suitable mold or former. They are then shaped by the action of the dies, the fabric assuming the shape of the male or lower die at the same time that its surface is embossed by the female or upper die. The defendants first form their carcase or frame into the shape of a hat by smooth heated dies. In that condition, it is the carcase of Roger, formed in the ordinary way known prior to 1859, of two thicknesses of muslin, united by an

adhesive and stiffening substance, and stamped into shape by smooth dies at one operation. The defendants then coat the carcase with the compound, as Roger does. They then have two dies of the same shape as the hat, the female or lower die being engraved on its inner surface, the upper or male die being smooth, the hat being placed in the female die, the entire inner surface of the hat being covered by a piece of India-rubber, and the male die, by its pressure against the India-rubber, forcing the coated surface of the hat to take and retain the counter-shape of the engraved inner surface of the female die. In substance, this is the operation performed by Roger, the only difference being that Roger makes his piston of India-rubber or caoutchouc disks serve the purpose of the defendants' male die and piece of India-rubber combined. But, from the nature of the India-rubber, these instrumentalities in the two operations are the equivalents of each other in their action in connection with the hat frame and the female die or mold in the process of embossing the fabric. The Roger specification speaks of the composition as being reduced to shape in the mold. So, too, the defendants reduce to shape, in their female die, the compound which has been applied in two coats to the frame. Blake does not reduce any coating to shape, for he has no coating. His embossing is made directly on the surface of the muslin. He dispenses with a coating, and says, in his specification, that the embossing itself gives to the muslin or other fabric the required stiffness. I am unable, therefore, to perceive that the defendants, in making the hats complained of, have done anything more than they are warranted in doing by the Roger and Ledion patent, assuming, as must be done for the purposes of this case, on the wording of the stipulation entered into by the parties, that that patent antedates Blake's invention.

In view of the Roger invention as earlier than Blake's invention, the Blake patent, in order to be upheld as a valid patent, must be construed to be limited to a hat in which the embossing is made directly on the muslin, without the intervention of any coating, the required stiffness being given by the embossing itself, without the use of a coating, and the hat being lighter by reason of the absence of the coating. On this construction, the patent is valid; but, as the defendants use a coating, they do not infringe it.

It follows that the bill must be dismissed, with costs.

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AFTER the foregoing decision was rendered, the case was reopened in certain particulars, further testimony was taken, and the case was reheard.

The following decision was rendered in March, 1872 :

S. J. Gordon and George Gifford, for complainants.

G. F. Langbein, for defendants.

BLATCHFORD, J.

A decision was rendered in this cause, in September, 1871, on final hearing, dismissing the bill. That decision proceeded upon the ground that the defendants had not infringed two of the three patents sued on; namely, the reissued patent to Modena Hat Company, of April 30, 1867, and the patent to John L. Kendall and R. H. Trested, of February 9, 1869. As to the third patent sued on, that to S. A. Blake, of December 24, 1861, it was stipulated by the parties that a French patent granted to Roger and Ledion, September 15, 1859, antedated the invention covered by the Blake patent, and the court held that the defendants, in making the hats complained of, had not done anything more than they were warranted in doing by the description furnished, under such stipulation, as the description contained in the Roger and Ledion patent. The court also held that, in view of the Roger and Ledion patent, as earlier, the Blake patent, in order to be upheld as a valid patent, must be construed to be limited to a hat in which the embossing is made directly on the muslin, without the intervention of any coating, the required stiffness being given by the embossing itself, without the use of a coating, and the hat being lighter by reason of the absence of the coating; but that, on such construction, the defendants did not infringe the patent, as they used a coating.

Before any decree was entered on that decision, it was discovered by the parties that the description on which they and the court had acted, as the description contained in the French patent to Roger and Ledion, of September, 1859, was not the description contained in that patent, but was, to a considerable extent, in substance, the description contained in a French patent granted to Roger and Ledion, July 19, 1860. The only patent to Roger

and Ledion set up in the answer as antedating the Blake invention, is that of September, 1859. By consent of the parties, and on the order of the court, the case was reopened, so far as to admit of the taking of testimony to determine whether or not the hats made by the defendants infringe the Blake patent, in view of the Roger and Ledion French patent of September, 1859, and for further argument on the question of infringement and the proper effect to be given to such French patent in determining that question. The defendants also had leave to introduce evidence on any additional matter of defense set up in the answer, but not theretofore relied upon and presented to the court, which they might see fit. Further testimony has been taken, and the case has been reheard. The conclusion having been reached in the former decision that, in view of what was then understood to have been the Roger and Ledion patent of September, 1859, the bill must be dismissed, there were several matters of defense developed in the proofs, which were not considered or passed upon by the court, and which are now open for consideration.

The invention of Blake is not carried back to a date earlier than December 31, 1859. It is shown on the part of the defendants that, as early as 1857, hat or bonnet frames were made of two or more thicknesses of muslin, stuck together by paste, and stamped into the shape of a hat by means of smooth dies, at one operation, the hat or bonnet frame, when completed, being seamless, and consisting of two or more thicknesses of muslin throughout. It is also shown that, in the spring of the year 1859, hats and bonnets were made out of two-ply and three-ply buckram (that is, two or three thicknesses of muslin, stuck together by starch), covered with satin, silk, or velvet, by means of dies, at one operation, so that, when finished, the hat or bonnet was of one piece, seamless, and consisted of two or three thicknesses of muslin throughout, covered all over with silk, satin, or velvet. It is also shown that it was no new thing, at the date of Blake's invention, to stamp paper, and to stamp such two and three-ply buckram, in imitation of straw braid, to be used in making bonnets, by means of flat engraved plates or dies. It is claimed, on the part of the plaintiffs, that, according to the description in the specification of the Blake patent, the product of the action of the dies is the completed body of a bonnet, embossed in imitation of

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straw, and fit for use as the body of a bonnet, in the shape given to it by the dies, and without further ornamenting or covering its surface; and that it is not merely a frame, or carcase, or skeleton, requiring to be afterward covered or ornamented to make its exterior surface so comely and presentable as to be salable as a bonnet; and, further, that it is not merely a fabric having the completed exterior surface necessary in the bonnet salable as such, but not shaped into its ultimate shape by dies, and requiring further manipulation to put it into such ultimate shape. I think these views of Blake's invention are correct, and that the proper construction of the claim of his patent is, that it claims a bonnet, the body of which is embossed in imitation of straw or other braid, by dies, which at the same time give to it its ultimate shape, such body being made of two or more thicknesses of muslin or other suitable fabric, united by starch or other suitable adhesive and stiffening substance. None of the articles above mentioned as prior inventions anticipate Blake's invention, on this construction of his claim, which is the construction which, in the former decision, I adopted as the proper one, aside from what was then supposed to be shown by the Roger and Ledion patent of 1859. The article produced according to the Blake invention is new and useful, an improvement in the trade, and patentable.

The hat testified to by Shaw as existing in 1857 is too vaguely deposed to. It is not shown how it was in fact made. It is not produced. All that there is, is the casual observation of it by a person who calls back his recollection of it fourteen years afterward, and who says it was made in one piece, of muslin, with a surface of paper, in imitation of Leghorn braid, and that it had the appearance of having been shaped and put into imitation of Leghorn braid by the use of engraved dies, at one process. Such evidence can not be admitted as sufficient to invalidate the Blake patent.

This leaves to be considered only the Roger and Ledion patent of 1859. According to the true text of that patent, now produced, there is no suggestion in it of the making of a bonnet by dies, in imitation of straw braid, out of two or more thicknesses of muslin, united into one fabric by starch or other adhesive and stiffening substance. The patent indicates the mold or die, of proper form, and arranged to produce the imitation of straw on

"a fabric of flax or cotton" impregnated with pasty collodion, and speaks of making hats in that way. The patent of Blake makes it an essential point that the bonnet shall be made of two or more thicknesses of fabric, united into a sheet by starch or other suitable adhesive and stiffening material. The importance of using such stiffening material is dwelt on, and the fact that the bonnet when embossed has a stiffness of fabric, and at the same time a lightness. The evidence shows that there is an advantage, in cheapness of manufacture, and in flexibility during manufacture, in using a fabric thus made of two thicknesses, over the use of a single fabric of equal thickness with the two.

The defendants' bonnet is made in the same way as the bonnet of the Blake patent, in all the features of the claim of that patent. It is made of three thicknesses of muslin, united by starch, and is shaped by dies, which at the same time emboss it in imitation of straw braid. The fact that the defendants put a coating on the muslin frame before subjecting it to the final action of the dies, does not make the product any the less the Blake product. It is shown that, in the defendants' bonnet, corrugations are formed in the fabric itself, by the dies, though to an extent diminished by the thickness of the coating. Adequate stiffness can be given by embossing directly on the muslin, without any coating. But the required stiffness is given when a coating is used.

There must be a decree for the plaintiffs for a perpetual injunction and an account of profits, as respects the Blake patent, with costs, with a reference to a master to take the account.

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JAMES S. CAREW ET AL.

vs.

THE BOSTON ELASTIC FABRIC COMPANY. IN EQUITY.

Where the commissioner accepts the surrender of a patent, and grants a new one, his decision, in the premises, in a suit for infringement, is final and conclusive, unless it is apparent upon the face of the reissued patent, as a matter of legal construction, that it is not for the same invention as that secured in the original letters patent.

Reissued letters patent may be in the name of the executor or administrator of a deceased patentee.

Under the authority of the commissioner to grant a reissued patent, he may allow the patentee to redescribe his invention, and to include in the description and claims of the patent not only what was well described before, but whatever else was suggested or substantially indicated in the specification, drawings, or Patent Office model, which properly belonged to the invention as actually made or perfected.

Interpolations of new features, ingredients, or devices, which were neither described, suggested, nor indicated in the original patent or Patent Office model, are not allowed in a reissue.

The rule *ut magis valeat quam pereat* is as applicable to patents as to any other instruments, in regard to which it is the duty of the court to adopt a liberal construction, in order to give effect to the intention of the parties.

Where doubts arise, it is the duty of the court to collect the intention of the parties from the whole instrument, and, if practicable, to adopt such a construction as will give it effect, and render it available for the purpose for which it was granted.

The invention of Daniel Hayward, for improvements in the process of manufacturing vulcanized rubber, as described in the reissued patent granted to James S. Carew, July 6, 1869, consists, first, in the use of a mold, which is heated by steam before the compound is placed in it, or before the pressure is applied for molding it, the other portion of the mold or the die being also heated by steam, and brought into its place with force sufficient to cause the compound, when softened by the heat to completely fill the mold; second, in applying heat by means of steam in steam chambers or steam jackets, the heat of the

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steam being conducted to the compound by the walls of the steam chamber or steam jacket; third, in applying the necessary heat to the compound while under pressure, either external or such as is produced by the expansion of the compound when confined in the molds.

These inventions are not anticipated by anything that was patented to Charles Goodyear, or in the English patents of Thomas Hancock, nor in that of Samuel Lord, for a method of pressing woolen cloths, nor in the patent of John Smith, for the construction of molds heated by steam, or otherwise, for shaping the brims of hats.

Prior to the act of July 8, 1870, the complainant in an equity suit could recover only such gains and profits as were made by the respondent.

Under the act of July 8, 1870, profits are to be accounted for by the respondent; and if it appears that the injuries which the complainant sustained by the infringement are greater than the gains and profits realized by the respondent, then the complainant is entitled to recover compensation for the excess of the injuries sustained, beyond the amount estimated and assessed for the gains and profits received by the respondent.

Actual damages for the injuries sustained by the complainant, beyond the amount estimated and allowed for the gains and profits made by the respondent, must be assessed in the first instance; but the court, in its discretion, may increase the amount so allowed to any sum, according to the circumstances, not exceeding three times the amount assessed as actual damages.

Damages for the infringement of letters patent can be recovered in an equity suit, where the wrongful acts were committed subsequent to the passage of the act of July 8, 1870.

(Before CLIFFORD, J., District of Massachusetts, October, 1871.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for "an improvement in the manufacture of India rubber, granted to Daniel Hayward, August 29, 1854; extended to Caleb Swan, executor of said Hayward, for seven years from August 29, 1868; assigned to the complainant, Carew, and reissued to him July 6, 1869.

The following extracts, from the specifications of the original and reissued patents, cover so much of both as is necessary to exhibit the alleged interpolations in the latter.

In the former, the inventor says:

"The principal features of my new process consist in applying heat either to India rubber in its native state, or to rubber with the substances

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commonly used in vulcanizing rubber, or to rubber which has once been vulcanized, by means of steam—the rubber or compound, while thus heated, being pressed into molds or dies, which give it the desired form, and the steam being conducted around all portions of the mold or dies, which come in contact with the rubber or compound to be acted upon. By this means, the process of curing rubber is greatly facilitated, and vulcanized rubber, which has hitherto resisted all attempts to remold it, readily pressed into any desired shape. By thus treating rubber, also many foreign articles, such as scraps of cloth, sulphur, white-lead, coal or wood tar, or any adhesive substance, may be so combined with it as to produce a substance which has all the valuable properties of vulcanized rubber, although the greater bulk of it is composed of other and cheaper materials. I also regulate the induration of the rubber or substance thus formed at pleasure, by permitting the escape of the steam and admitting cold water around the molds and dies in its stead, thereby checking the curing of the rubber at any desired stage of the process.”

* * * * *

“An essential feature of my process consists in so introducing steam to the molds and dies as to cause it to circulate entirely through and around the same, so that every part of the rubber or compound which bears against the molds or dies shall come in contact with a surface heated by steam. The action of the steam thus circulating within the molds and dies produces a heat which causes the complete fusion of the different substances of which the article to be manufactured is compounded, to which the requisite shape or form is readily imparted by the pressure of the dies. The rubber and its compounds commonly used, together with the other foreign substances hereinbefore mentioned, become so fused and cured by this application of steam and pressure as to produce a substance which has all the valuable properties of vulcanized rubber; and, furthermore, the great bulk of this substance may be composed of cheap materials, with only a small portion of rubber, thereby producing vulcanized rubber, or a substance which has all the properties of the same, at a very small cost.”

In addition to the great advantage thus claimed for the new process—that foreign substances can be largely employed, and that worn-out articles of vulcanized rubber can be remolded into any desired form—it is further alleged that, as compared with the “ordinary process” of vulcanizing goods by inserting them in large ovens or in large steam-boilers, where they are kept at a graduated temperature for hours, a great saving of fuel and time is effected, a few moments only being required for the work.

The specification concludes as follows :

“I do not claim the curing of India rubber in its natural state, when compounded with sulphur and lead, by the use of heat or of steam; nor do I claim the compounding of sulphur, white-lead, or coal-tar with India rubber, all these having been the subjects of previous patents. * * *

“I claim the improvement in the process of vulcanizing native India rubber, or rubber once vulcanized, compounded with other articles, as above set forth, which consists in heating and curing them with steam,

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and under pressure, and in regulating the application of steam and the induration of the product by the introduction of steam and water, as described, by which a very great saving is made in the time and fuel required for the process, as herein above stated."

In the specification of the reissue, the assignee uses the following language :

"The principal features of said process consist in applying heat, by means of steam, to rubber mixed with the substances commonly used in vulcanizing rubber, or to rubber compound which has once been vulcanized, either with or without the addition of fresh rubber; the rubber or compound while thus heated being pressed into molds or dies of the desired form, and the steam being introduced into steam-chambers or steam-jackets, and thereby conducted around the molds or dies which come in contact with the compound to be acted upon."

* * * * *

"It will be seen that an essential feature of said process consists in so introducing steam to the molds and dies as to cause it to circulate entirely through and around the same, or substantially so, so that substantially every part of the rubber or compound which bears against the molds or dies shall come in contact with a surface heated by steam. Steam thus circulating within the chambers of the molds and dies produces a heat which causes the softening of the compounds of which the article is to be manufactured, to which the requisite shape or form is readily imparted by the pressure of the dies. The rubber and its compounds commonly used, together with the other foreign substances hereinbefore mentioned, becomes so cured by the application of steam and pressure as to produce a substance which has all the valuable properties of vulcanized rubber. * * * * *

In some cases, and for the manufacture of certain articles, especially where pressure is not necessary for the purpose of filling the mold with the substance to be vulcanized, the mere confinement of the compound between the surrounding steam-jackets or chambers may be sufficient without the application of any actual pressure before vulcanizing, inasmuch as the material always expands in bulk during the process of vulcanization and thereby, in itself produces a pressure upon the surfaces by which it is surrounded and confined. * * * * *

Where rubber goods vulcanized by the ordinary process in ovens or steam-boilers are blistered or imperfectly vulcanized, it is found that by placing them between steam-jackets and under pressure the defects are cured, and the blisters and imperfections are removed by the action of the heat and pressure thus applied."

* * * * *

"I do not claim any peculiar compound or any particular arrangement of machinery, as this part of the invention of said Daniel Hayward does not consist in a new composition of matter, or in a new machine, but is applicable to all vulcanizable compounds, by means of suitable apparatus.

"The first part of this invention relates to molding the compound used, and consists in the use of a mold, which is heated by steam, as described, before the compound is placed in it, or before the pressure is applied for molding it, the other portion of the mold or the die—also heated by steam, as described—being brought into its place with force sufficient to cause the compound, which is softened by the heat, to completely fill the mold. This part of the invention is beneficial in some degree, even when the pure compound is used, but especially so when a compound is used which contains a portion of old vulcanized rubber,

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"The second part of this invention relates to the application of the heat necessary for curing the compound, and consists in applying it by means of steam in steam-chambers, or steam-jackets, as they are commonly called, the heat of the steam being conducted to the compound by those walls of the steam-chamber or steam-jacket which come in contact with it.

"The third part of this invention consists in applying the necessary heat to the compound while under pressure besides that pressure which would necessarily result from the expansion of the compound when confined in the mold. This pressure is believed to be especially beneficial when material is used consisting only in part of pure compound, but is regarded as of benefit in any compound, as it prevents imperfections of surface and want of homogeneousness in the goods, arising from air, water, or other foreign substance in the compound.

"What I claim as the invention of said Hayward, and desire to secure by letters patent, is:

"1. The herein-described process of vulcanizing and molding rubber compounds, viz., by means of molds heated substantially as described, and so arranged that the compound, being placed in the mold and therein softened by the heat, is then forced by pressure to fill the mold, and therein vulcanized substantially as described.

"2. The herein-described process of vulcanizing rubber compounds, viz., by applying heat to the compound to be vulcanized by means of steam in steam jackets, substantially as described.

"3. The herein-described process of vulcanization of rubber goods, consisting in the application of heat, by means of steam-jackets, to the compound to be vulcanized while under pressure, substantially in the manner described."

It was urged by the defense that Hayward, in the original patent, limited himself to vulcanizing "by steam and under pressure," the articles subjected to the process being at the same time shaped by the pressure in the molds or dies; and, therefore, that the second claim of the reissue is void, as setting up a different invention, viz., the process of vulcanizing rubber compounds by applying heat thereto by means of steam in steam-jackets, and independently of any molds or shaping mechanism whatever.

As to the third claim of the reissue, it was urged that it is based upon an interpolation of new matter, and relates not to the "vulcanizing of rubber compounds"—the only thing contemplated by Hayward—but the dressing or finishing of "goods" already vulcanized in the desired shapes "by the ordinary process;" and that not only is this finishing process carried on without "molds," but the state of "fusion" described by Hayward would be fatal to it—a fact fully recognized by the assignee when, in the reissue, he substituted the term "softening" for the term "fusion" employed in the original.

On the question of novelty, the English patent of Lord, Robinson & Foster, No. 5,234, of 1825, was referred to, being, in part,

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for the use of steam-heated chambers or steam-jackets in pressing woolen cloths and other fabrics ; also, the English patent of John Smith, January 21, 1845, which describes steam-heated molds for shaping the brims of hats ; and it was contended that, if the defendants, by using the steam-jacket of Lord for smoothing the surface of goods previously vulcanized and shaped in the ordinary process, infringed the third claim of the reissue, then the invention therein described, so far as infringed, was not novel with Hayward.

The English patent of Thomas Hancock, March 18, 1846, and the American patent of Charles Goodyear, April 4, 1854, were also referred to as showing that rubber compounds had been placed in molds, or between plates, and then introduced inside the walls of a large steam-filled and steam-heated chamber, and therein heated to vulcanization ; and it was claimed that such chamber was virtually a "steam-jacket," and that this process was, in substance, the same as that covered by the second claim of the patent on which the suit was brought.

On the question of infringement, the defendants admitted the manufacture, after the granting of the reissue, of a few pairs of deckle-straps, these straps having first been vulcanized by the "ordinary process" and then finished up, to give them a smoother face, by placing them in channels in steam-jackets or hollow plates heated internally by steam. It was claimed, however, that this constituted no infringement of the second claim, since the heat was applied by means of the jacket to articles already vulcanized, and not to a "rubber compound," and since, in reheating vulcanized articles between plates, to give them a smoothed surface, there was not used, necessarily, nor in fact, that high degree of heat which is always considered necessary in original vulcanization "for curing the compound." It was also urged that the process practiced by the defendants in finishing up the deckle-plates was not an infringement of the third claim, since the reheating, between steam-heated plates and under pressure, of the vulcanized rubber goods did not amount to a "process of vulcanization."

The argument in support of the bill need be referred to no further than to state that it gives as the gist of Hayward's invention the discovery that one of the processes in common use in the

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manufacture of vulcanized rubber, viz., vulcanizing it in molds by placing the molds filled with rubber in a boiler, can be advantageously modified by supplying the molds with steam-jackets, and conducting the steam to the molds, instead of carrying them to the steam; and it was assumed that, by virtue of the discovery, Hayward was entitled to claim the use of the improved process upon all classes of articles to which the old process was applied, and, among others, to manufactured goods which had been but imperfectly vulcanized, or which had been "blistered," it being already well known that the defects of such goods could be remedied by additional vulcanization under pressure.

As to the substitution in the reissue of the term "softening" for "fusion," it was claimed that the latter term was inadvertently used in the original patent, there being, in reality, no "complete fusion," and that the correction of the mistake was a legitimate use of the right of reissue.

J. E. Maynadier and Whiting & Russell, for complainants.

F. A. Brooks and George Gifford, for defendants.

CLIFFORD, J.

Authority to accept the surrender of an original patent in certain cases where the specification is defective or insufficient, and to grant a new patent to the inventor of the improvement, is conferred upon the Commissioner of Patents; and where he accepts the surrender and grants the new patent, his decision in the premises, in a suit for infringement, is final and conclusive, unless it is apparent upon the face of the reissued patent, as matter of legal construction, that it is not for the same invention as that secured in the original letters patent. 5 Stat. at Large, 122; 16 Ib. 206; *Seymour v. Osborne*, 11 Wall, 542. ✓

On August 29, 1854, letters patent were granted to Daniel Hayward, since deceased, for certain new and useful improvements in the manufacture and in the process of manufacturing vulcanized rubber, for the term of fourteen years; and, on August 28, 1868, the letters patent were extended in the name of the executor of the patentee for the further term of seven years from the expiration of the original term of the letters patent. Sub-

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sequent to the extension of the patent, to wit, on December 15, in the same year—the executor of the original patentee, by deed of assignment in due form, conveyed all his right, title, and interest in the letters patent to the first-named complainant, through whom, by virtue of certain agreements, the other complainants derive their title, as more fully set forth in the bill of complaint. By virtue of that conveyance the legal title to the letters patent became vested in the assignee, and the record shows that he, on July 6, 1869, surrendered the letters patent on account of a defective or insufficient specification, and that a new patent was issued to the same party, and, as the complainant alleges, for the same invention. Apart from that, they also allege that the original patentee was the original and first inventor of the improvement; that they, the complainants, are the owners of the reissued letters patent, and of the exclusive right to make and use the invention and vend the same to others to be used, and that they are entitled to be protected in the enjoyment of that exclusive right during the residue of the term for which the reissued letters patent were granted. Acquiescence by the public in their claim that the exclusive right to the improvement belongs to them, is also alleged, and that they would have derived large gains and profits from the manufacture of the patented product but for the wrongful doings of the respondents, and they charge that the respondents, ever since the reissued letters patent were granted, have unlawfully and wrongfully made, used, and sold large quantities of articles composed of the patented product, and manufactured in the manner and by the process patented and secured in their letters patent, and that they, the respondents, have received great gains and profits from the manufacture and sale of such articles and from the unlawful use of their invention. Process was issued and duly served, and the respondents appeared and filed an answer. Such of the defenses set up in the answer as were not urged by the respondents at the final hearing will not be examined at the present time. Those urged are as follows: 1. That the executor of the original patentee was not authorized by law to surrender the original letters patent and to obtain the reissued letters patent described in the bill of complaint. 2. That the reissued letters patent were not granted for the same invention as

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that described in the specification of the original letters patent. 3. That the patentee in the original letters patent was not the original and first inventor of the alleged improvement. 4. That the respondents have not infringed, except to a small extent, the patented invention, as alleged in the bill of complaint.

I. Controversies of this kind, where the original patentee has deceased, and where the reissued letters patent were in the name of the executor or administrator, have often come before the courts, and the printed arguments for the respondents refer to no decided cases where it is held that the letters patent are invalid on that account. *Goodyear v. Rubber Co.*, 2 Cliff. 366. 2 Fisher, 499. Same case, 9 Wall. 788.

Specifications in letters patent are frequently found to be defective or insufficient; and where the original patentee has deceased and his estate is under administration, it is difficult to see any solid objection to the power of his executor or administrator to make the surrender and obtain the reissue. Patents which are inoperative or invalid by reason of a defective or insufficient description or specification, if the error arose by inadvertence, accident, or mistake, and without any fraudulent or deceptive intention, may be surrendered, and the commissioner is authorized, upon the payment of thirty dollars, to cause a new patent to be issued to the inventor for the same invention for the residue of the period then unexpired, for which the original patent was granted, and the repealed patent act, under which the reissued letters patent were granted in this case, provided that "in case of his death, or any assignment by him made of the original patent, a similar right shall vest in his executors, administrators, or assigns." 5 Stat. at Large, 122; 16 Ib. 106.

II. Reissued letters patent must, by the express words of the section authorizing the same, be for the same invention; and, consequently, where it appears on a comparison of the two instruments, as matter of law, that the reissued patent is not for the same invention as that secured in the original patent, the reissued patent is invalid, as the commissioner, in that state of the case, must be held to have exceeded his jurisdiction. Power is unquestionably conferred upon the commissioner to allow the specification to be amended, if the patent is inoperative or invalid, and in that event to issue a new patent in proper form, and he

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may doubtless, under that authority, allow the patentee to re-describe his invention, and to include in the description and claims of the patent, not only what was well described before, but whatever else was suggested or substantially indicated in the specification, drawings, or Patent Office model, which properly belonged to the invention as actually made or perfected. Interpolations of new features, ingredients, or devices, which were neither described, suggested, nor indicated in the original patent or Patent Office model, are not allowed, as it is clear that the commissioner has no jurisdiction to grant a reissue unless it be for the same invention as that embodied in the original letters patent. *Seymour v. Osborn*, 11 Wall. 544.

Apply those rules to the case at bar, and it is clear as anything in legal decision can be, that the second defense set up by the respondents cannot be sustained. Certain parts or passages of the specification of the reissued patent are incorporated into the answer of the respondents as showing that the reissued patent describes and claims an invention or certain features of an invention different from that described and secured in the original patent; but the court is of a different opinion, as everything described in the parts or passages of the original specification selected and embodied in the answer as supporting that defense, is found either fully set forth, or plainly suggested, or substantially indicated by the inventor in the specification or drawings of the original patent. He describes his improvement in the original letters patent as a process for working over vulcanized rubber and molding it into any desired shape; and he states that, in carrying the process into effect, many foreign articles of less cost than rubber may be incorporated into the rubber so as to produce a substance or compound having all the valuable properties of vulcanized rubber, at such a reduced cost as to admit of its being more extensively used than heretofore, and to be applied to many new and useful purposes. The respondents select as the chief ground of complaint the following parts or passages contained in the specification of the reissued letters patent. Pressure, says the patentee, in certain cases is necessarily applied, in order to give homogeneousness to the material and to free it from blisters and other imperfections; and where rubber goods, which were vulcanized by the ordinary process, in ovens or steam boilers, are

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blistered or imperfectly vulcanized, it is found that the defects may be cured by placing the material between steam-jackets and under pressure, and that the blisters and imperfections may be removed by the action of heat and pressure there applied. Preceding that part of the specification embodied in the answer as the one describing a different invention from that secured in the original patent, the patentee states that in some cases the mere confinement of the compound between the surrounding steam-jackets or chambers may be sufficient without the application of any actual pressure before the compound is vulcanized, inasmuch as the material always expands in bulk during the process of vulcanization, which produces a pressure upon the surfaces by which it is surrounded and confined. Vulcanized rubber, the patentee in the reissued letters patent states, ceased to be of value when the article constructed from it had become worn out, as it is well known that it possesses properties which practically prevent its being used a second time; and he proceeds to represent that the improvement consists in a new process for vulcanizing and molding any compound of rubber capable of being vulcanized, and that the improvement is applicable also to working over and re-vulcanizing rubber compound which has already been vulcanized and put to use. He also states that by the process many foreign substances may be intermixed with the ordinary rubber compound, whether already once vulcanized or newly compounded for vulcanization, so as to form a substance having the valuable properties of vulcanized rubber compound, although composed in a great part of cheaper materials. Superadded to those representations is the further statement that the principal features of the process consist in applying heat by means of steam to rubber mixed with substances commonly used in vulcanizing rubber, or to rubber compound which has once been vulcanized either with or without the addition of fresh rubber, the same, whether the rubber or the compound, being pressed into molds or dies of the desired form, and the steam being introduced into steam-chambers or steam-jackets, and thereby conducted around the molds or dies which come in contact with the compound to be molded into the desired form. Much reliance is placed upon that passage of the specification of the reissued patent, as showing that the specification describes an invention different from that

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described in the specification of the original patent; but the court is clearly of the opinion that it fails to establish any such proposition within the meaning of the patent law. Some difference undoubtedly exists between the phraseology of that passage and the corresponding passage in the specification of the original patent; but the substance of the two descriptions is the same, as clearly appears by comparing that passage with the language employed in the specification of the original patent, in which it is stated that the principal features of the new process consist in applying heat either to rubber in its native state, or to rubber with the substances commonly used in vulcanizing rubber which has once been vulcanized by means of steam. No attempt is made to show that the introductory representation of that passage differs in any essential particular from the corresponding representation in the specification of the reissued patent, but it is insisted that the succeeding portion of the paragraph falls short of sustaining the corresponding feature in the new patent. The court is unable to sustain that proposition, as the patentee states, in effect, in continuing the description of his process, that the rubber or compound, while thus heated, is pressed into molds or dies, which give it the desired form, "the steam being conducted around all portions of the molds or dies which come in contact with the rubber or compound to be" molded into the desired form. "By this means the process of curing rubber is greatly facilitated, and vulcanized rubber, which has hitherto resisted all attempts to remold it, is readily pressed into any desired shape." Other references to the respective specifications might be made to show that the reissued patent is for the same invention as that embodied in the original patent, but it is not necessary to pursue the subject, as it is quite evident that the new patent does not contain anything which is not fully described or substantially suggested in the specifications or drawings of the surrendered patent. Three varieties of apparatus are described as sufficient to illustrate the application of his improved process to the production of different articles manufactured of rubber and its compounds. He then remarks that the essential feature of the process is not the use of such a form of machine, or of molds or dies, but that it consists in "so introducing steam to the molds and dies as to cause it to circulate entirely through and around the same, or substantially so, so that

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substantially every part of the rubber or compound which bears against the molds or dies shall come in contact with a surface heated by steam," softening the compound so that it may be molded into the requisite shape or form by the pressure of the dies. Special reference is made to the fact that the words uneven surfaces, or blisters, or "smoothing surfaces," or "plating articles" are not mentioned in the specification of the original patent; but it is a sufficient answer to that suggestion to say that the term molding rubber and its compounds may well include all that is meant by those particular phrases.

III. Want of novelty is the next defense, and in connection with the general allegation that the original patentee is not the original and first inventor of the improvement, the defense is presented in two or three special forms, which will be noticed as a part of the same defense. Proofs were taken on both sides, and the complainants, at the final hearing, introduced in evidence the reissued letters patent as described in the bill of complaint. Such evidence—that is, the letters patent on which the suit is founded—when introduced by the complainant, affords a *prima-facie* presumption, if they are in due form, that the patentee is the original and first inventor of what is therein described as his improvement, and the complainants, when the true meaning of the claims of the letters patent is ascertained, are entitled to the benefit of that presumption. Much difficulty is experienced in determining the true meaning of the specification and claims of the patent, as they contain many expressions tending to support the charge that the patentee of the reissued patent intended to embrace the invention of Charles Goodyear, which was for curing the native rubber, when combined with or in the presence of sulphur, by submitting the same to the action of a high degree of artificial heat, and also for the new manufacture called vulcanized India rubber, being a combination of India rubber with sulphur chemically altered by the application of a high degree of heat. If so construed as to include that invention, the letters patent would certainly be invalid, as that patent was of a prior origin, and its validity was sustained in this court, and affirmed in the Supreme Court. *Goodyear v. Providence Rubber Co. Supra.*

But the rule *ut res magis valeat quam pereat* is as applicable to patents as to any other instruments in regard to which it is the

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duty of the court to adopt a liberal construction, in order to give effect to the intention of the parties. *Ryan v. Goodwin*, 3 Sum. 520; *Evans v. Eaton*, 3 Wheat. 512.

Where doubts arise, it is the duty of the court to collect the intention of the parties from the whole instrument, and, if practicable, to adopt such a construction as will give it effect and render it available for the purpose for which it was granted. Apply that rule to the construction of the letters patent, and it is quite clear that the specifications and claims of the patent do not embrace what was invented by Charles Goodyear, as described in his letters patent. Express disclaimer of any such pretensions is contained in the original letters patent, in which the patentee states that he does not claim the curing of India rubber in its natural state when compounded with sulphur and lead by the use of heat or of steam, nor the compounding of sulphur, white lead, or coal tar with India rubber, and he admits, in terms too explicit to be denied, that "all those have been the subjects of previous patents." Confirmation of that view is also derived from the statement of the patentee in the specification of the original patent, that the leading and most important feature of my improvements is *the curing again* and reproducing of vulcanized rubber from scraps or fragments which have once been vulcanized. Working over vulcanized rubber and molding it into any desired shape is, in the opinion of the court, the main feature of the invention as described in the original patent; but it is certain that the patentee also states that many foreign articles may be so incorporated with the India rubber or caoutchouc, either in its native state or when vulcanized or otherwise prepared, as to produce a substance which has all the properties of vulcanized rubber. India rubber in the native state may unquestionably be used in a certain proportion as an ingredient of the compound, but the main feature of the invention is to prepare old vulcanized rubber, with or without foreign articles, for a second use by means of molds or dies. Heat generated by steam is applied, whether the substance is rubber in the native state, or rubber with the substances commonly used in vulcanizing the same; but the patentee in the original patent proceeded to say that the rubber or compound, while thus heated, is pressed into molds or dies, which give it the desired form, and that the steam is conducted around all portions of the

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molds or dies which come in contact with the rubber or compound.

Enough is also found in the specification of the reissued patent to lead to the same conclusion. Prior to the invention, as the patentee in the new patent states, the value of vulcanized rubber ceased when the article as manufactured was worn out, or had served the purpose for which it was prepared, as it could not be worked over or used a second time. Beyond doubt, the next succeeding paragraph of the specification gives some support to the indefinite and unlimited construction assumed by the complainants; but it is clear, if that view is adopted, that the reissued patent would be void in having been granted for a different invention from that described in the original specification. Satisfactory explanation to the contrary, however, is found in the latter clause of the same paragraph, in which it is said that many foreign substances may be intermixed with the ordinary rubber compound, whether already once vulcanized or newly compounded for vulcanization; and the succeeding paragraph shows, even more conclusively, what the actual invention is, and that the patentee never pretended to embrace any of the improvements made by the great inventor in this department of the useful arts. Many foreign substances, he says, may be intermixed so as to form a substance having the valuable properties of vulcanized rubber compound, although composed in a great part of cheaper materials; and he then proceeds to say that the principal features of his process consist in applying heat by means of steam to rubber mixed with substances commonly used in vulcanizing rubber, or to rubber compound which has once been vulcanized, either with or without the addition of fresh rubber, the rubber or compound, while thus heated, being pressed into molds or dies of the desired form, and the steam being introduced into steam-chambers or steam-jackets, and thereby conducted around the molds or dies which come in contact with the compound. Pressure of some sort is doubtless necessary, in order that the compound may be forced into all parts of the mold or die, and that the material or manufacture may be made smooth and uniform. Objection is made that the word blisters is not used in the original patent; but the objection is without merit, as the process and the purpose are plainly suggested and easily understood. Steam-jackets are not

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named in the original patent, but the language employed is scarcely less suggestive, and fully justifies the action of the commissioner in granting the reissued patent. Mention should be made that the patentee describes the respective ingredients to be used in preparing rubber in its natural state, as well as for conducting the process of revulcanization, or for working it over a second time; but it is unnecessary to dwell upon that topic, as the patentee states, in express terms, that he does not claim any peculiar compound, or any particular arrangement of machinery, as that part of the invention does not consist in a new composition of matter, nor in a new machine, and he must abide by that disclaimer. Appended to that, is another statement, which deserves a passing notice, as the representation, if embodied in a claim, would render the claim void, unless it could be limited to such compounds as those described in the specification. He states that the process is applicable to all compounds by means of suitable apparatus; but it is clear that the original patentee never set up any such claim, and if he had, it could not be sustained, as it may be that other compounds, not now known, may yet be discovered, which will prove to be vulcanizable. *Goodyear v. Providence Rubber Co.*, 2 Cliff. 275.

Viewed in the light of those explanations, as the specification must be, it is quite clear that the patentee intends to use the compound for vulcanizing rubber, whether old rubber or native rubber, and whether used with or without foreign articles, together with the application of a high degree of heat as the primary means of vulcanization or revulcanization, and that the compound is composed substantially of the same ingredients, and in substantially the same proportions as those described in the specification of the great inventor of that improvement. Beyond question, the inventor of the improvement in the case before the court intended to use substantially the same ingredients as the primary means of vulcanization or revulcanization; but he admits that those means are public property, and he does not profess to describe anything of the kind as a part of his invention. Subject to these explanations and qualifications, he proceeds to say that the first part of his invention relates to molding the compound used, and consists in the use of a mold which is heated by steam before the compound is placed in it, or before the pressure is ap-

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plied for molding it, the other portion of the mold or die being also heated by steam, and brought into its place with force sufficient to cause the compound, which is softened by the heat, to completely fill the mold; and he states that that part of the invention is especially useful when a compound is used which contains a portion of old vulcanized rubber. Immediately following, and without any intervening explanation, is the equally explicit statement as to the second part of the invention, which the patentee says relates to the application of the heat necessary for curing the compound, and "*consists in applying it by means of steam in steam-chambers or steam-jackets*, the heat of the steam being conducted by the walls of the steam-chamber or steam-jacket which comes in contact with it." Carefully examined, it will be seen that the second claim of the patentee is for the mode described in applying heat by means of steam in steam-chambers or steam-jackets, and also the mode of conducting it to the compound by the walls of the steam-chamber or steam-jacket. He does not claim to be the discoverer that heat will cure the compound, nor even the ingredients of the compound, as those matters were discovered by an antecedent inventor. External pressure is generally necessary to some extent, and the third part of the invention, as the patentee states, consists in applying the necessary heat to the compound while under pressure, either external or such as is produced by the expansion of the compound when confined in the molds.

These claims are repeated at the close of the specification, but it is unnecessary to give them much separate examination, except to say that they must receive the same construction as that given to the claims mentioned in the body of the specification. Suppose that it is so, still the respondents insist that the art of placing such compound or compounds in molds, or between metallic surfaces or dies, and then applying heat and molding the same into the desired form, either in large chambers or ovens, filled with steam of the proper temperature, was well known and used before the invention was made by the original patentee in this case. They also allege in their answer that the art of smoothing the surfaces of goods by means of steam contained within the walls or chambers formed in rollers or dies, was also known and used before the date of that invention. Remarks respecting the invention of

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Charles Goodyear are unnecessary, as it has already been shown that the letters patent in this case, when properly construed, do not describe the invention of the patentee as embracing anything which was patented to the former inventor. Brief reference only need be made to the patent of Thomas Hancock, as it is evident that the invention differs widely from that of the complainants in the case before the court. His molds were different, as he employed the steam-boiler process, and not the mold surrounded by steam-chambers, as described in the complainants' patent. He formed the article in the mold before he applied heat, and in order to prevent the compound from adhering to the mold, he employed silicate of magnesia, and applied the same either to the inner surface of the mold, or to the article as formed of the compound, and in many cases he removed the article from the mold before it was vulcanized. None of the mechanism employed by the original patentee in this case is described in the specification of the Hancock patent. All that need be said respecting the patent of Samuel Lord and that of John Smith is, that the patent granted to the former was for an improvement in pressing whole pieces of woollen cloth, and that of the latter was for the construction of molds heated by steam or otherwise for shaping the brims of hats, and that they are not of a character, in the opinion of the court, to supersede the invention secured in the reissued letters patent of the complainants. Such part of the invention of the complainants described in the letters patent as consists in the means of constructing the mold, or of modifying the pressure upon the material while the heat is being applied for the purpose of vulcanization, is substantially admitted to be new and useful within the meaning of the patent law, and the court is of the opinion that each of the three claims, if properly construed and limited as herein described, is valid.

Discussion of the objection taken in argument that the alleged improvement, as described in the specification, is not patentable, may well be omitted, as the remarks of the court already made in defining the invention show that the defense can not be sustained.

IV. Grant that the construction of the patent adopted by the court is correct, and it follows that the charge of infringement to a certain extent is admitted; and the correct practice where infringement to any extent is admitted, if the patent is held to be

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valid, is to enter an interlocutory decree for the complainant, and send the cause to a master to ascertain the amount which the complainant is entitled to recover. Such gains and profits only as were made by the respondent in the unlawful use of the invention could be recovered by the complainant in an equity suit, prosecuted under the repealed patent act, as appears by several decisions. *Livingston v. Woodworth*, 15 How. 558; *Rubber Co. v. Goodyear*, 9 Wall. 804. Different rules, however, are enacted in the new patent act, which provides that the complainant, when a decree is rendered in a suit in equity for an infringement, shall be entitled to recover, in addition to the profits to be accounted for by the respondent, the damages he has sustained thereby; and the further provision is that the court shall assess the same, or cause the same to be assessed, in its discretion, and that the court shall have the same discretionary power to increase the damages as that given by the act where the damages are found by a verdict in an action on the case. 16 Stat. at Large, 206.

Profits are to be accounted for by the respondent in every such suit, whenever a decretal order to that effect is rendered against the respondent for an infringement; and if it appears that the injuries which the complainant sustained by the infringement are greater than the gains and profits realized by the respondent in making and using the invention, and vending it to others to be used as estimated and assessed, then the complainant is entitled to recover compensation for the excess of the injuries sustained, beyond the amount estimated and assessed for the gains and profits received by the respondent. Actual damages for the injuries sustained by the complainant beyond the amount estimated and allowed for the gains and profits made by the respondent, must be assessed in the first instance; but the court, in its discretion, may increase the amount so allowed to any sum, according to the circumstances, not exceeding three times the amount estimated and assessed as the actual damages sustained beyond the gains and profits realized by the respondent. Prior acts and parts of acts set forth in the schedule of acts annexed to the last section of the new act are declared by the first clause of that section to be repealed; but the next clause of the same section provides that the repeal enacted shall not affect, impair, or take away any right existing under any of said laws. Pending actions are in

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terms saved from all the consequences of the repeal; and the further provision is that all actions and causes of action, both in law and in equity, which have arisen under any of said laws, "may be *commenced* and prosecuted to final judgment and execution in the same manner as though this act had not been passed," excepting that the remedial provisions of the act shall be applicable to such causes of action if commenced and prosecuted subsequent to the passage of the new act. 16 Stat. at Large, 216. Damages for the infringement of letters patent, where the wrongful acts were committed by the respondent subsequent to the passage of that act, may, in certain cases, be recovered by the complainant in an equity suit, beyond the gains and profits made by the wrong-doer; but it is clear that the case before the court is not of that character, as fully appears by the allegations of the bill of complaint.

Decree for complainants, to be framed in conformity to the opinion of the court.

WILLIAM SISSON ET AL.

vs.

DAVID GILBERT ET AL. IN EQUITY.

The fact that an invention was in public use and on sale, with the consent and allowance of the inventor, more than two years before his application for a patent, renders the patent invalid, however great the hindrances to the application, and whether caused by the want of pecuniary means, or other misfortune.

The public use, in this case, held not to have been experimental, the inventor having himself manufactured and sold machines containing the invention, through several years, and having allowed such machines to be used thence onward, for six more years, before applying for his patent.

A merely experimental use, made in good faith, and not in such wise as to amount to a fraud upon the public, misleading them into a use, in

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the belief that it is free, does not destroy the exclusive right of an inventor.

What constitutes an "allowance" by an inventor, of a public use of his invention, although there are no words of consent, his consent and allowance being inferred from acquiescence.

A defense that the patent was invalid, because of such consent and allowance, being sustained, the bill was dismissed, but, under the circumstances, without costs.

(Before WOODRUFF, J., Northern District of New York, October, 1871.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for an "improvement in machine for making staves from bolts," granted to William Sisson, September 24, 1861, and assigned to complainants. The application for the patent was filed in the Patent Office in November, 1859.

J. H. Townsend, for complainants.

F. A. Macomber, for defendants.

WOODRUFF, J.

The claim of the patentee, in his specification, is confined to two particulars: 1. Certain rib guides, projecting from the guide-bar, against the narrow surfaces of which the stave-bolt rests, arranged in combination with the vibratory bed, in form and position concentric therewith, through the open spaces between which ribs the chips and splinters cut off by the knife fall, without clogging the machine. 2. The employment of a strip of wood with the ends of the grain upward, inserted in a groove in the bed, along the line where the bed comes in contact with the edge of the knife, and having, at the bottom of the groove, a supporting plate, or bar of iron, or other strong material, made adjustable by means of set screws, or equivalent means, to sustain it firmly along its entire length, to raise or lower the supporting bar, by which, when the surface end of the strip of wood is cut away, it may be raised in the groove, pared off, and so present an unimpaired surface to the knife. Nothing else described in the specification of the patentee is secured to him by the patent.

As to both of these devices, I am constrained to say that, in my

judgment, the proof shows that both were in public use and on sale, with the consent and allowance of the patentee, more than two years before his application for a patent. If this be so, then, however great the hindrances to such application, and whether caused by the want of pecuniary means, or other misfortune, the right to the future exclusive use was lost. This may be a great hardship, and so may properly induce a court to require very clear proof, and dispose them to give full weight to the *prima-facie* evidence which the granting of the patent itself imports, in support of the patentee's title; but, if such use and sale be, nevertheless, established, there is no alternative—the court has no discretion. The right claimed depends upon express statute, and exists only by its force and according to its terms; and, by that statute, such sale and use are a full defense to the inventor's claim. Act of July 4, 1836, sections 6, 15, 5 U. S. Stat. at Large, 119, 123; Act of March 3, 1839, section 7, Id. 354.

My conclusion rests mainly upon the testimony of Sisson, the patentee, himself, and of the witnesses called by the complainants, from which, I think, it appears that, in 1845, Sisson was employed by Crossette, the patentee of a stave machine, to do work for him, in the manufacture of his machines, at Fulton, New York, and that Sisson then suggested to Crossette's partner the improvement first claimed in the above-named specification, and then placed rib-guides or projections upon the wooden guide by them theretofore used, and, soon after, and in the same year, replaced the wooden guide or gauge with an iron one, and "manufactured the stave machine after that with those improvements;" and that, after Crossette left Fulton, in August, 1845, the present patentee continued to manufacture and sell to parties who held town rights under Crossette's patent. He varied the extent of the projection, and varied the number of such projecting rib-guides from three to four, and finally to five, which last number, he says, he settled upon, although his model, deposited in the Patent Office, by which, if the number constitutes a material part of his invention, he is bound, contains but four. He thinks he made these ribs, substantially as they are now, prior to May 1, 1853; and the last machine he made, he made in April, 1853, and he made them for the parties who owned territorial rights to Crossette's patent.

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There seems to me little room to say, upon this evidence—without recurring to the testimony of other witnesses, or to the testimony of the making and sale by others of machines having such ribs, of which he had knowledge—that this improvement was not on sale or in use with the consent and allowance of the inventor.

In like manner, he made an improvement, in 1845, in Crossette's machine, by a groove in the bed, and the insertion of wood having the grain endwise, to receive the blow of the knife when it struck through the bolt; and this he thereafter used and sold in the machines made by him, down to and including the last machine, made, as he says, in April, 1853. He does not give the precise date when the bar in the grooves, with set screws to raise the strips of wood, when partially cut away by the knife, was introduced: but the complainants' witness, who worked for the patentee as millwright and pattern-maker, testifies distinctly that it was put in many machines before 1851.

True, the patentee says, in his testimony, that the last machine which he made was the only one that had the complete improvement; but, on examination of his own evidence, it appears that no changes were made, except the variation in the number and extent of projections of the guide-bars, and in the thickness or weight of the bar placed in the groove. These were not of the substance of the invention. The patentee would hardly claim that any third party may use six guide-bars, instead of four, or a bar in the groove half an inch thick, instead of a quarter, and not infringe his patent. All this was done before May, 1, 1853, and the machines had gone into the use for which this patentee made them.

It seems to me that this is, as matter of law, within the statute, and a defense. The patentee calls this seven years, making and selling machines with the improvements, experimental, for the purpose of ascertaining and developing their utility; and he estimates the number of machines that he made between 1845 and 1853, as not more than twelve. It is settled that a merely experimental use, made in good faith, and not in such wise as to amount to a fraud upon the public, misleading them into a use, in the belief that it is free, does not destroy the exclusive right of an inventor; but, in the face of the evidence of continued manu-

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facture and sale through several years, and the allowance of such use thence onward, for six more years, before the patent was applied for, I think that statement will not avail the complainants.

It is also difficult to say that the information which the inventor had of the manufacture and sale of machines with his improvements, by Dutton & Co., within three hundred yards of his shop, or their surreptitious procurement of his patterns to be copied for the purpose, and his information of the manufacture and sale of his improvements at Rochester, not followed up or even investigated by him, the former, especially, continuing for eight or ten years before the application for a patent was made, were not such a permitting of the public use and sale of the improvements as constitutes an allowance thereof, within the meaning of the law, although there were no words of consent. Consent and allowance may be inferred from acquiescence.

It is not without regret that I am compelled to conclude that either through ignorance of the law, or want of means or aid in procuring the patent for a meritorious invention, the patentee placed himself in a situation in which this action can not be sustained.

The bill must, therefore, be dismissed, but, under the circumstances, without costs.

EBEN PEEK AND GILBERT J. BOGART

vs.

JOHN FRAME, JOHN M. NICHOLS, ET AL.

In this case, which was an action at law for the infringement of letters patent, the plaintiff having had, at the trial, a verdict for \$5,000, the court, regarding the conduct of the defendant as peculiarly aggravated, increased the damages to \$7,500, as being a sum sufficient to cover the expenses of the trial, and something more for the time and trouble of the plaintiff.

(Before WOODRUFF, J., Southern District of New York, October, 1871.)

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MOTION for increase of damages in an action at law.

Suit brought upon letters patent for an "improved machine for sawing thin boards, etc.," granted to John Myers and Robert G. Eunson, May 23, 1854, and extended for seven years, from May 23, 1868. The plaintiffs were the owners of the patent for that part of the city of New York lying west of Broadway and the Eighth avenue. At the trial (before Woodruff, J.) the plaintiffs had a verdict for \$5,000. They now made a motion for judgment in their favor, for such sum as should be proper, above the amount found by the verdict, not exceeding three times the amount thereof. The motion was founded upon an affidavit, made by one of the plaintiffs, setting forth the following facts: The plaintiffs bought their interest in the patent in 1864, and paid therefor a considerable sum of money for the original term, and afterward for the extended term. The machine described in the patent is one of very great speed and efficiency, and two or three of the machines are capable of doing the whole resawing business of the west half of the city of New York. At the time the plaintiffs purchased such interest, the defendants, Nichols and Robbins, owned a right to use one of the machines in said district, and the plaintiffs, in order to render their interest in the patent profitable, purchased from those defendants, in January, 1865, all their interest under the patent, paying a considerable sum of money therefor. In December, 1866, those defendants made an arrangement with the defendant, Frame, to put into operation, in their place of business, which was directly opposite the place of business of the plaintiffs, a machine substantially like the patented machine. Frame set up the machine, and the other defendants furnished him with power to run it, and the profits of running it were divided between them. The defendants also cut down the price of resawing from \$4.00 per thousand feet to \$2.50 per thousand feet, and diverted many customers from the plaintiffs' establishment to their own. The plaintiffs were obliged to reduce the price of their resawing to \$3.00 per thousand feet. The defendants were, at the very commencement, notified by the plaintiffs not to use the infringing machine, and threatened with a suit. After fruitless negotiations for an arrangement, this suit was brought. It was defended by a combination of infringers, formed by the defendants, who made up a common purse to resist

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the rights of the plaintiffs, and of other owners of rights under the patent. The trial of the suit was delayed by the defendants. At the trial, the plaintiffs proved that the defendants had diverted from them, up to December, 1868, a large specified quantity of lumber, on which the plaintiffs lost a profit of \$2.00 per thousand feet; that, by reason of the reduction by the plaintiffs of the price of resawing, caused by the infringement, the plaintiffs had lost the sum of \$1.00 upon every thousand feet of a specified quantity of lumber, which they had themselves sawed; and that such damages in all amounted to over \$8,000. Large amounts of business had been diverted by the defendants from the plaintiffs, of which the plaintiffs could not prove the particulars, because they were known only to the defendants. The plaintiffs incurred an expense, in conducting this suit, of upward of \$1,500. Since the trial in this suit, the patent had been sustained, on final hearing, in a suit in equity, in this court, against these defendants (8 Blatch. C. C. 446; 4 Fisher, 493), at a further expense to the plaintiffs of \$800.

Frederic H. Betts, for plaintiffs.

Keller & Blake, for defendants.

WOODRUFF, J.

I regarded the conduct of the defendants, as disclosed on the trial, as peculiarly aggravated, and find no reason for changing my opinion. The damages ought to be increased by a sum sufficient to cover the expenses of the trial, and something more for the time and trouble of the plaintiffs. Let the damages be increased to \$7,500.

Taylor v. Garretson.

LUKE TAYLOR

vs.

OLIVER S. GARRETSON, JOHN G. GARRETSON, ALBERT
GARRETSON, AND JOHN D. SHEPARD. IN EQUITY.

The first claim of the reissued letters patent for an "improved mop-head," granted to Luke Taylor, October 19, 1869, the original letters patent having been granted to him February 15, 1859, and reissued November 10, 1868, and again reissued November 24, 1868, namely, "In a mop-head, in which the cross-head or stationary jaw is attached permanently and immovably to the handle, operating the movable jaw or binder by means of a tubular screw or socket fitted in the handle, and having its screw-thread on its exterior, in combination with a nut encompassing the screw, and connected with the movable jaw, so as to operate substantially as shown and described," is, in substance, a claim for the described devices, arrangement, and organization for operating the movable jaw of a mop-head, in which the cross-head or stationary jaw is attached permanently and immovably to the handle, by means of the screw formed on the exterior of the collar described in the specification, so fitted to and fixed upon the handle as to revolve thereon without longitudinal motion, in combination with a nut encompassing the screw, and connected with the movable jaw so as to operate substantially as shown and described in the specification.

The mere substitution of a mechanical equivalent or equivalents for one or more of the elements constituting the combinations and organizations thus claimed, or any merely formal or fraudulently evasive change in the parts or arrangement embraced in the claim, will not relieve a party from liability as an infringer.

The second claim of the said reissued patent, namely, "In a mop-head, in which the movable jaw or binder is operated through the medium of a screw-nut or collar, by means of thumb-ears attached to or formed with the said screw-nut or collar, placing the said ears outside the yoke or bow of the movable jaw or binder aforesaid, as herein described, for the purpose set forth," is, in substance, a claim to the invention of the described location and use of the thumb-ears attached to the tubular screw or collar, with a screw on its exterior, constructed and oper-

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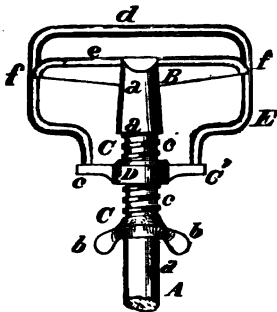
ated substantially as described, in a mop-head in which its movable jaw is operated through the medium of such tubular screw or collar, with screw-threads on its exterior, in connection with a proper nut encompassing and acting with such screw.

Ordinarily, the claim of a patentee should be so construed as to secure to him the exclusive right to control the use of his actual invention, if this can be done without violence to the language of his claims; but this general rule would hardly be acted upon in a case where it was evident that his claims had been expressed in loose, ambiguous, or general terms, for the fraudulent purpose of apparently covering subsequent inventions, especially where the objectionable claim had been first introduced in a reissue, for the purpose of covering the subsequent invention of another.

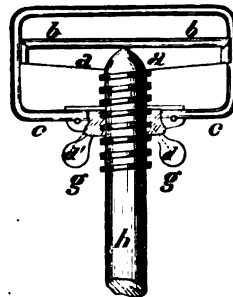
A mop-head constructed in accordance with the description contained in letters patent for an "improved mop-head," granted to Oliver S. Garretson, August 13, 1867, is not an infringement of the said reissued patent to Taylor, as it does not contain Taylor's revolving collar, with a screw-threaded exterior, or any mechanical equivalent therefor.

(Before HALL, J., Northern District of New York, October, 1871.)

FINAL hearing on pleadings and proofs.



Complainant's.



Defendants'.

Suit brought on letters patent for an "improved mop-head," granted to plaintiff, February 15, 1859; reissued November 10, 1868; again November 24, 1868, and again October 19, 1869. The specifications and claims of the last reissued patent, and those of letters patent for an "improved mop-head," granted O. S. Garretson, one of the defendants, April 13, 1867, will be found in the opinion, and will be fully understood by reference to the

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accompanying engravings; noting that the screw-thread upon the complainant's device is cut upon an iron collar, *c, c*, which is turned freely upon the handle by the thumb-pieces, *b, b*; while, in the mop-head of the defendants', the thread is cut upon the handle, or firmly attached to it, the movable jaw being operated by a screw-nut, *d, d'*, attached to the thumb pieces, *g, g*.

George M. Plympton, for complainant.

Sprague & Hyatt, for defendants.

HALL, J.

This is a suit in equity, for an injunction and account, founded upon reissued letters patent, for an "improved mop-head," dated October 19, 1869, and which were issued to the plaintiff upon the surrender of reissued letters patent, dated November 24, 1868. The original letters patent were granted to the plaintiff February 15, 1859, and were surrendered by the plaintiff, and reissued letters patent taken, dated November 10, 1868. These were afterward surrendered, and the before-mentioned reissued letters patent of November 24, 1868, were issued in lieu thereof.

The specification and claim annexed to the reissued letters patent, upon which this suit was brought, are as follows: "To all whom it may concern: Be it known, that I, Luke Taylor, of Springfield, in the county of Windsor, and state of Vermont, have invented a new and improved mop-head; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which fig. 1 is an external view of my invention; fig. 2 is a longitudinal section of the same, taken in line X X, fig. 1, similar letters of reference indicating corresponding parts in the two figures. To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it. *A* represents the handle of the mop-head, said handle being constructed of a tough, elastic wood, and *B* represents the stationary jaw of the head, which is of T form, one portion, *a*, being a socket, which is fitted on the end of the handle, *A*, and secured permanently thereto by means of rivets, *d*, one or more. On the handle, *A*, below the socket, *a*, and between said

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socket and a shoulder, a^* , on the handle, a collar, C , of cast-iron, is placed, and allowed to turn freely, the lower end of said collar having projections, b , attached, for the purpose of allowing said collar to be readily turned by the hand or thumb and fingers. On this collar there is cast a screw-thread, c , on which a nut, D , works. The nut, D , is provided with projecting ears, c' , c' , at opposites sides of it, and to these ears, c' , c' , the ends of a jaw, E , are attached. The jaw, E , is formed of a curved wrought-iron rod, so bent that a portion, d , of it will be parallel with the portion, e , of the stationary jaw, B , and the remaining portions, f , f , so bent that they will pass around the ends of the stationary jaw, B , fitting in recesses therein, and serving as guides, and their lower parts curved, so as to be attached to the projecting ears, c' , c' , of the nut, D , as shown clearly in fig. 1. The stationary jaw, B , may be of cast-iron, malleable, if desired, and the collar, C , with its screw, c , may be of the same material. From the above description, it will be seen that, by simply turning the collar, C , the jaw, E , will be moved in and out from the stationary jaw, B , and the cloth or mop firmly secured in the head, or between the two jaws, and also readily released or detached therefrom, when necessary. I am aware that the nut operating the movable jaws or binders of mop-heads have been manipulated by means of a nut, with ears or projections placed between the movable jaws or binders and the cross-head. I am also aware that mop-heads have been made with an external screw-thread of wrought-iron or wood, cut on the handle or shaft, and working into a wrought-iron nut, or internal screw, cut into the cross-head or yoke of a movable jaw; but the wooden screw, by reason of its swelling and binding, when wet, and the wrought-iron screw rusting and binding, and the fineness or closeness of the screw-threads, made the process of tightening and loosening the mop a slow process, and rendering the mop-head, thus constructed, inoperative, and of little value. These, therefore, I do not claim, broadly, or in themselves considered; but what I do claim as new, and desire to secure by letters patent, is: 1. In a mop-head, in which the cross-head, or stationary jaw, is attached permanently and immovably to the handle, operating the movable jaw or binder by means of a tubular screw or socket, fitted on the handle, and having its screw-thread on its exterior, in combina-

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tion with a nut encompassing the screw, and connected with the movable jaw, so as to operate substantially as shown and described. 2. In a mop-head, in which the movable jaw or binder is operated through the medium of a screw-nut or collar, by means of thumb-ears attached to or formed with the said screw-nut or collar, placing the said ears outside the yoke or bow of the movable jaw or binder aforesaid, as herein described, for the purpose set forth."

From this description of the plaintiff's improved mop-head, any person familiar with the forms of improved mop-heads generally used can, it is believed, obtain a sufficient knowledge of the characteristics and peculiarities of the plaintiff's invention, and of its construction and operation, to understand the questions presented in this case, although the drawings annexed to the specification would, of course, greatly aid one in readily obtaining a full and perfect comprehension of its construction and operation.

The specification and drawings annexed to the original letters patent were, in substance, like those annexed to the last reissue, except that there was only a single claim, and that of a different character, and that, instead of the two paragraphs which immediately precede the statement of the plaintiff's claims in the foregoing specification, and which relate to prior construction, the following paragraphs were inserted: "I am aware that a screw has been attached to the handle of a mop-head, and a nut fitted on the screw to actuate the movable jaw; but, as far as I am aware, the handle is turned with the screw in order to actuate the nut. In my invention the screw is fitted loosely to the handle, and turns separately, and the device is thereby rendered more durable, and the movable jaw may be actuated with greater facility than by the plan alluded to. I do not claim separately any of the parts described."

Immediately following these paragraphs is the claim, in these words: "But I do claim as new, and desire to secure by letters patent, as an improved article of manufacture, a mop-head, having a loose collar, C, provided with a screw-thread, and otherwise made as described."

On August 13, 1867, the defendant, Oliver S. Garretson, obtained letters patent for an "improved mop-head;" and, in the

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specification and drawings annexed, he fully described the construction of the mop-head subsequently manufactured and sold by him and by John G. Garretson, and which, it is claimed, was an infringement of the plaintiff's patent. These letters patent were somewhat relied on by the defendants; but, as the only claim made in the specification was (as will be presently seen) the "making of the collar of the loose jaw" (or immovable part of the clamp in which the material of the mop is held) "in two parts, so that the nut" (therein referred to as *d d*) "may be placed between them, and, when connected together, the collar surrounds the nut, and retains it in position, for the purpose above set forth," it is not deemed important upon the question of the infringement of the plaintiff's patent. Indeed, its effect as evidence is more favorable to the plaintiff than to the defendants, for it is fairly to be presumed, either that Garretson did not originally claim any device now claimed to be covered by the plaintiff's patent, or else that such claim was disallowed by the Patent Office.

The construction and character of the mop-head alleged to be an infringement of the plaintiff's patent, and the precise invention patented to Oliver S. Garretson, may, perhaps, be best shown by copying the specification and claim annexed to his patent. They are in the following words: "To all whom it may concern: Be it known, that I, O. S. Garretson, of the city of Cincinnati, in the county of Hamilton, and state of Ohio, have invented a new and useful improvement in the construction of mop-heads, and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which fig. 1 is a perspective view of the head, with a part of the handle attached, the parts being put together complete. Fig. 2 is an elevation of the same, part of the nut and part of the collar of the loose jaw being removed, to show the manner in which the flange of the nut enters the collar, and, by being rotated, acts on the screw of the shank or handle, and makes the loose jaw recede from or approach the fixed jaw or cross-head; also, the manner of connecting the parts of the loose jaw together. Fig. 3 is a perspective view of that part of the loose jaw that forms the collar, broken in two, to show the recess in which the flange of the nut plays,

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and the recess designed to receive and retain the smaller parts of the same ; or that part that may be formed of wire, as here represented, with the holes by which, with rivets, the parts are secured together. Fig. 4 is the nut, shown in perspective. Like letters indicate corresponding parts of all the figures. My improvement in mop-heads chiefly consists in constructing that part of the loose jaw that forms the collar in two parts or halves, with the inner surfaces properly grooved to receive and retain the flange or wings of the nut, and to allow it to have a free rotary motion, by which means the parts with the recesses and rivet holes may be cast complete, requiring no drilling or reaming in putting together. As represented in fig. 1, *a, a*, is the fixed jaw or cross-head, and is cast hollow, to receive the handle, *h*. In fig. 2 the loose jaw is marked *b, b, c, c*; and here one part of it, marked *c, c*, is removed, the better to show the recess in which the flange of the nut, *d, d*, plays. Part of the nut is also removed, to show how the thread of the screw on its inner surface acts on the screw on the shank or handle, *h*, and the flange is retained in the recess in the loose jaw, when, by rotating the nut by the thumb-pieces, *g, g*, fig. 4, the loose jaw, *b, b, c, c*, must recede from or approach the fixed jaw, for the purpose of receiving or retaining the mop. Fig. 4 is the nut, shown in perspective, with one thread of a screw on its inner surface, to match the screw on the shank or handle, *h*, with its thumb-pieces, *g, g*, by which it is rotated. Part of the flange on its outer surface is also lacking, better to adapt it to be molded and cast without coring. The important advantage gained by my construction of the mop-head is, that, by constructing that part of the loose jaw that forms the collar for the nut in two parts or halves, it, with its recesses and rivet holes, may be cast complete, and will require no drilling or reaming in putting together, a great saving of labor in constructing, and, when done, forms a neat, compact, and durable article. The operation or manner of using it is to turn the nut by its thumb-pieces, *g, g*, fig. 4, and the loose jaw recedes from the fixed jaw or cross-head, and the mop may be inserted. Turning the nut in an opposite direction brings the loose jaw and the cross-head near together, and the mop is held firmly in position. What I claim as my invention, and desire to secure by letters patent, is making the collar of the loose jaw in two parts, so that the nut, *d, d*, may be placed be-

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tween them, and, when connected together, the collar surrounds the nut, and retains it in position for the purpose above set forth."

It is the manufacture and sale of the mop-head, thus described, which, and which alone, is insisted upon as an infringement of the plaintiff's patent. Such manufacture and sale by the first-named two defendants are admitted, but it is denied that this was an infringement of the plaintiff's rights. The validity of the patent on which the suit is brought is also denied upon the ground of the want of novelty. It was also insisted that both claims of the plaintiff's patent were invalid: 1. Because they are broader than the alleged invention shown and described in the specification. 2. Because they each include inoperative devices. 3. Because they are each ambiguous and uncertain.

It was conceded, at the hearing, that there was no proof that the defendants, Albert Garretson and John D. Shepard, or either of them, had infringed the plaintiff's patent, and as to them the plaintiff's bill must, of course, be dismissed.

The question of novelty in the actual invention of the plaintiff may be summarily disposed of. There can be no doubt upon the evidence in the case, that the plaintiff was the first to introduce into a mop-head, in which the cross-head or stationary jaw was rigidly and permanently attached to the handle, the described and peculiar arrangement and devices for forcing in either direction the movable jaw of such mop-head, and holding it in place when the required degree of pressure upon the material of the mop proper had been attained. Whether the plaintiff's claims are broader than his actual invention must depend upon the construction to be given to the language used by the patentee, and this construction will be presently considered.

The limited character and scope of the plaintiff's claims; the carefully expressed disclaimers contained in his specification; and the evidence given in respect to the devices and organizations which had been used for similar purposes prior to the time of the plaintiff's invention, satisfactorily prove that the plaintiff's invention was simply an improvement upon the previously existing organizations and devices for moving and holding in position, as might be desired, the movable jaw of a mop-head, by means of a single screw. This must be constantly borne in mind while considering the scope and character of the plaintiff's actual in-

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vention, and the construction proper to be given to the claims contained in his last amended specification, and also in determining the question of infringement. The plaintiff's invention being only an improvement of certain parts of a known machine, he can not treat another as an infringer because he has improved the previously existing machine or machines, by using a form, construction, device, or combination substantially different from that invented and patented by the plaintiff, though performing the same functions. *McCormick v. Talcott*, 20 Howard, 402; *Burr v. Duryee*, 1 Wallace, 531, 573, 574. And it may be well, also, to bear this in mind in considering the question of construction, as it must be borne in mind and regarded in considering the question of infringement.

Ordinarily, the claim of a patentee should be so construed as to secure to him the exclusive right to control the use of his actual invention, if this can be done without violence to the language of his claims; but this general rule would hardly be acted upon in a case where it was evident that his claims had been expressed in loose, ambiguous, or general terms, for the fraudulent purpose of apparently covering subsequent inventions, especially where the objectionable claim had been first introduced in a reissue, for the purpose of covering the subsequent invention of another. *Burr v. Duryee*, 1 Wallace, 531, 575; *Case v. Brown*, 2 Wallace, 320.

Under the general rule last stated, the first claim of the plaintiff's patent is, in substance, a claim for the described devices, arrangement, and organization for operating the movable jaw of a mop-head, in which the cross-head or stationary jaw is attached permanently and immovably to the handle, by means of the screw formed on the exterior of the collar described in the plaintiff's specification, so fitted to and fixed upon the handle as to revolve thereon without longitudinal motion, in combination with a nut encompassing the screw, and connected with the movable jaw, so as to operate substantially as shown and described in the plaintiff's specification. Of course, the mere substitution of a mechanical equivalent or equivalents for one or more of the elements constituting the combinations and organizations thus claimed, or any merely formal or fraudulently evasive change in

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the parts or arrangement embraced in the claim, would not relieve a party from liability as an infringer.

The addition, in this first claim, of the term "socket," if intended as the alternative of the term "tubular screw," and to refer to the same thing, was unnecessary, and, perhaps, improper; and it can have no effect, unless it can properly be construed to extend the claim to the socket and screw upon its exterior, found in the Garretson mop-head. If so construed, it would certainly be extended beyond the limits of the plaintiff's actual invention; and perhaps it ought to be considered that the term "socket" was so inserted upon the reissue, for the fraudulent purpose of suppressing Garretson's subsequent invention. But, as this case will be here determined upon other grounds, this question will not be discussed or decided.

The second claim of the plaintiff, under the general rule before stated, is, in substance, a claim to the invention of the described location and use of the thumb-ears attached to the tubular screw or collar, with a screw on its exterior, constructed and operated substantially as described, in a mop-head in which its movable jaw is operated through the medium of such tubular screw or collar, with screw-threads on its exterior, in connection with a proper nut encompassing and acting with such screw. The insertion of the term "screw-nut" in this claim was unnecessary and improper, and justifies, at least, a suspicion that it was inserted for the fraudulent purpose of suppressing the subsequent invention of Garretson.

In confirmation of the view taken of the scope and character of the plaintiff's claims, and of his actual invention, and also as preparatory to a discussion of the character, office, and operation of the devices and arrangement used in the Garretson mop-head for like purposes, with a view to the proper determination of the question of infringement, it may be well, at this point, to refer to and describe the devices and arrangements adopted for similar purposes in two previously existing organizations. The first of these is the mop-head described in letters patent granted to Alexander Barnes, November 20, 1855; and the other, the mop-head marked "Defendants' Exhibit F"—it being satisfactorily proved that mop-heads of the same character had been in use long prior to the plaintiff's invention. Both of these, in most of the parts

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not now in controversy, or not presently referred to and described, are quite similar in their general organization, and in their principles or modes of operation, to both the Taylor and Garretson mop-heads; and, taken together, they may be properly considered as representing the state of the art at the time of the plaintiff's invention.

In the first, the cross-bar, which forms what is termed, in the plaintiff's claim, the cross-head or stationary jaw, was so arranged and fixed as to revolve upon the end of an iron rod inserted in the wooden portion of the handle of the mop, and upon which iron rod was cut the operative screw by which the movable jaw of the mop-head was moved and held in place. The movable jaw was similar to that of the Taylor mop-head, with its arms or ends connected together by a short cross-bar, having a female screw in the middle lines of its length and breadth, being, in fact, a nut with ears, like that in the plaintiff's mop-head, except that its screw-threads were finer, and that the diameter of the screw required to fit and fill it (the screw being of wrought-iron) was not so large. The screw-threads on the exterior of the iron rod to which the stationary jaw was so fixed, corresponded and co-operated with those in the short cross-bar or nut with ears, before referred to. The movable jaw in this organization was, therefore, moved and operated by turning the handle and its screw, while the stationary jaw was so held as to prevent its revolution. The construction and arrangement just described were objectionable, because an unequal pressure upon the different arms of the mop-head might give it a revolving motion, in such manner and direction as to open or loosen its jaws, and release their firm hold upon the materials of the mop proper. The fineness of the threads of the screw, and the danger that rust upon its surface might interfere with its uniform and successful operation, may also have been slight objections to its general adoption.

In the construction shown by the defendants' Exhibit F, the iron rod and screw of the Barnes mop-head were rigidly and permanently attached to the stationary jaw, as well as to the wooden portion of the handle of the mop, and there was, therefore, no female screw cut in the short cross-bar through which the screw passed, as in the Barnes mop-head; but the required action of the movable jaw, for the purpose of effectually clamping and

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holding, or of releasing the material of the mop, was produced by turning a nut with thumb ears, placed upon the screw between the short cross-bars and the stationary jaw. This construction was objectionable, because the position of the nut with thumb-ears was inside the yoke or bow of the movable jaw, and therefore not so easily operated; and the fineness of the screw and the danger of rust, as before stated, in respect to the Barnes mop-head, may also have been considered slight objections to its general adoption and use.

As an improvement upon the Barnes mop-head, the plaintiff's invention was, in substance, this: He attached the stationary jaw to the handle in such manner that the handle could not revolve without a corresponding motion of the mop-head; and, in order that the proper motion and action might be given to the movable jaw, by means of a screw on the handle of the mop, working in the eared nut or female screw of the short cross-bar, he cut the proper screw-threads upon the exterior of a collar placed and fixed upon the handle, instead of cutting the screw upon the main body of the handle itself. This construction enabled him to place his thumb-ears outside the bow of the stationary jaw, instead of inside of it, as had been done in the mop-head represented by the defendants' Exhibit F, and in the other organizations referred to in the plaintiff's disclaimer. The great and distinguishing feature of his invention was, therefore, the introduction and use of a screw revolving, without longitudinal movement, around the main body of the mop-handle, and operated by the use of thumb-ears, outside the bow of the movable jaw.

Considered as an improvement upon mop-heads like those represented by the defendants' Exhibit F, the plaintiff's invention consisted in converting the short cross-bar of the movable jaw into an eared nut, and giving it motion in both directions, and securing it in place by the introduction and action of the collar and its exterior screw—this collar, with its exterior screw, thus constituting, as before stated, the principal and distinguishing feature of his invention.

Neither of the separate parts of the plaintiff's new arrangement and organization was claimed or could have been claimed as new; for all of them, including the revolving collar, with the screw upon its exterior, and working in a nut, to produce longitudinal

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motion, while it was itself so held as to prevent its moving longitudinally, had been before used in other organizations. Such screw collars had been used for an analogous or similar purpose in larger wrenches, a specimen of which was given in evidence.

The Garretson mop-head is an extremely limited, but doubtless valuable improvement upon the mop-head represented by the defendants' Exhibit F. Garretson's improvement consists, mainly, in casting the short cross-bar of the movable jaw in two longitudinal sections or pieces, of such form that, when united, there shall be a large circular orifice in the middle lines of their united length and breadth, with a channel or recess cast or formed therein, of such form and dimensions as may be required to receive and hold, as against any but a revolving motion, a nut with an exterior flange fitted to and revolving in the channel or recess so provided for it in the short cross-bar, thus enabling the operator to move in either direction, and fix in its proper position the movable jaw of the mop-head, by revolving the nut upon the screw cast upon the socket or iron portion of the mop-handle. This having been accomplished, it was obvious that the thumb-ears of the nut should be placed outside the bow of the movable jaw; and this location of the thumb-ears of the nut was accordingly adopted.

The Garretson device has, perhaps, no advantage over that of the plaintiff, except in cheapness of cost of construction, and, possibly (judging from the statement in regard to the swelling of wooden screws in the plaintiff's specification), in avoiding the danger of failure in the proper or easy action of the plaintiff's device, by reason of the swelling of the wooden portion of the mop-handle, upon which it is intended to revolve.

The iron rod in the Barnes mop-head and in that represented by the defendants' Exhibit F, on which the screw was cut, and the socket cast upon the stationary jaw of the Taylor and the Garretson mop-heads, are parts of the mop-handles to which the stationary jaws are attached; and the placing of the screw upon the socket of the Garretson mop-head, and the use of coarser threads in the operating screws, are only differences of degree, and in mechanical construction, and a change from one to the other is not a patentable invention.

The changes in the arrangement, form, and construction of the

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parts concerned in the mechanical movement and retention in place of the movable jaw of the mop-head in use prior to the invention of Taylor, which were made by him and by Garretson, were both meritorious improvements upon such mop-heads, and patentable inventions; and, in my judgment, the two devices, in construction and arrangement, are substantially and essentially different, and also substantially different in their modes of operation. The Garretson mop-head does not contain the revolving collar with a screw-threaded exterior, and the introduction and use of this collar is the main and most essential feature of the plaintiff's invention. Nor does it contain any mechanical equivalent of such screw-threaded revolving collar, which could have been substituted for it without meritorious and substantial invention. Imparting motion to the movable jaw of a mop-head, by means of a revolving nut working upon a screw cut upon the the socket or handle rigidly attached to the mop-head, and also connected with the short cross-bar of the movable jaw in such manner as to allow it to revolve upon the screw without any other motion separate from that of the cross-bar, required the exercise of the inventive faculty in no small degree; and it is quite certain that the Garretson device, in its construction and arrangement of parts, and in its principle and mode of operation, is substantially and essentially different from the actual invention of the plaintiff. The two devices are supposed to be equally efficient and useful; but it was testified by one of the defendant's experts, and not disproved, that the Garretson device was to be preferred, because the cost of its construction was less than the cost of the device invented by the plaintiff.

In short, no infringement of the plaintiff's right has been established, and, for that reason, the plaintiff's bill is dismissed, with costs. The other questions presented by the learned counsel of the respective parties may, therefore, properly be left without further discussion.

Thayer v. Wales.

EDWIN S. THAYER ET AL.

vs.

JOSEPH WALES AND JAMES M. DIETZ. IN EQUITY.

The first claim of the letters patent granted to John Stainthorp, March 6, 1855, for an "improvement in machines for making candles," namely, "the employment of the pistons, D, D, formed at their upper ends into molds for the tips of the candles, in combination with stationary candle-molds, to throw out the candles in a vertical direction, substantially as herein set forth," is infringed by a machine in which the piston has a flat end, and molds a candle with a flat end, instead of a convex tip, provided the piston is used in combination with the stationary mold, to throw out the candle in a vertical direction, as described in the specification.

The said letters patent are valid.

Stainthorp having described a piston with a form adapted to a tip-mold, it required no invention to alter the form of the piston to a plane surface, nor did any change in the principle of the machine follow such alteration.

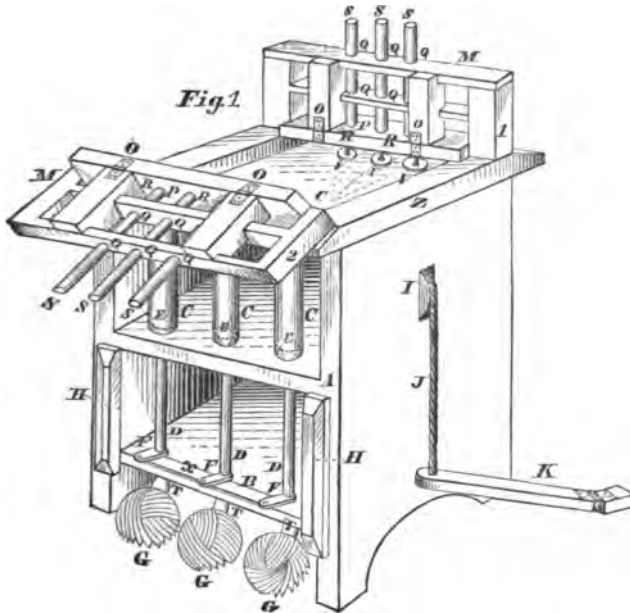
A preliminary injunction granted against a clear infringement, there having been repeated adjudications sustaining the patent.

An irregularity in the service on a defendant of the subpoena in a suit in equity affords no reason for withholding an injunction against him, if he has had notice of the motion for the injunction, and appears to oppose it.

(Before BENEDICT, J., Eastern District of New York, October, 1871.)

MOTION for preliminary injunction.

Suit brought upon letters patent for an "improvement in machines for making candles," granted to John Stainthorp, March 6, 1855; extended for seven years from March 6, 1869, and assigned to complainants. The first claim of the patent, which was the only one in controversy, will be found in the opinion of the court.



In the Stainthorp machine, as represented above, the hollow rods or pistons marked D, D, D, are formed at their upper ends into molds (shown in dotted lines at E, E, E,) for the tips of the candles, the bodies of which are cast in the molds, C, C, C. The rods or pistons are raised by suitable mechanism, so as to force the candles from the molds when the casting is completed.

Miles B. Andrus and Causten Browne, for complainant.

Abbett & Fuller, for defendants.

BENEDICT, J.

This case comes before me upon a motion, on the part of the complainants, for a preliminary injunction to restrain the defendants from using a machine in the making of candles, within this district, upon the ground that it is an infringement upon a patent granted to John Stainthorp, March 6, 1855, for an "improvement in machines for making candles," and owned by the complain-

Thayer v. Wales.

ants. The motion is founded upon the bill and affidavits, and is opposed by affidavits on the part of the defendants.

The first issue raised is as to the infringement charged. There appears to be no dispute in regard to the description of machine which the defendants are using, but it is contended that such a machine is not covered by the claim in the Stainthorp patent.

The Stainthorp patent contains two claims, of which the first is the only one in controversy here. That claim is as follows: "What I claim as new, and desire to secure by letters patent, is: 1. The employment of the pistons, D, D, formed at their upper ends into molds for the tips of the candles, in combination with stationary candle-molds, to throw out the candles in a vertical direction, substantially as herein set forth." This claim, the defendants insist, does not cover the defendants' machine, because, in the defendants' machine, the piston is flat, and molds a candle with a flat end, instead of a convex tip, whereas, as they claim, a tip-mold is a substantial feature in the Stainthorp patent, and a necessary element of the combination secured by that patent. I am unable to sustain this construction of the Stainthorp patent. The object sought to be attained by the Stainthorp invention was the safe removal of the candle from the mold in which it is formed, and, by the same operation, a proper adjustment of the wick for a new candle. This is accomplished by constructing a stationary upright mold, which, instead of having a fixed bottom, has a movable bottom, arranged to work, by means of a piston-rod, as a piston in the mold, and having a center aperture in the piston, through which the wick can pass, enabling the candle to be forced up by the movable bottom, and safely delivered from the upper end of the mold, while the wick is, at the same time, drawn through the mold ready for the next candle.

The first claim set forth in the patent is for the employment of the piston in combination with the stationary mold, to throw out the candle in a vertical direction, as described. I find nothing in the specification or claim to warrant the opinion that the shape of the piston was therein mentioned for the purpose of claiming any particular shape of piston as part of the invention. The form of piston mentioned is not necessary to accomplish the result sought to be attained; and the mode of operation of the machine remains unchanged, whether the candle be molded with a con-

cave, or a convex, or a flat end. Candles are made with ends of various forms, and every form of end may be molded by a piston shaped to such form. The form of the candle was not what the Stainthorp invention looked to. It sought to deliver, in a safe and cheap way, candles of every form; and, the method having been described in the patent, it required no invention to alter the form of the piston to a plane surface, nor did any change in the principle of the machine follow such alteration. No advantage is shown to have been gained by such alteration, and no reason for it has been suggested. It appears to me to have been made with the expectation of raising a distinction between the machines, which should, in effect, enable the defendants to use the Stainthorp invention without compensation, and for that purpose alone. But the alteration is merely colorable, and creates no substantial change. The defendants' machine must, therefore, be held to be, in substance, similar to the Stainthorp machine in the features now in question, and its use an infringement of that patent.

It is further contended that the invention claimed by the Stainthorp patent was previously known and described; and what is known as the Morgan machine is referred to as showing this. But the Stainthorp patent is not recent, and has been repeatedly adjudicated upon and sustained; and, in more than one instance, the Morgan machine was proved and held not sufficient to invalidate the patent. *Stainthorp v. Elkinton*, 1 Fisher's Patent Cases, 349; *Stainthorp v. Humiston*, Id. 475. Repeated adjudications in favor of this patent entitle the complainants to the relief of a preliminary injunction against what seems to me to be a clear infringement.

Some preliminary objections to this motion were taken on behalf of the defendants, only one of which I think it necessary to mention here. An objection is taken by the defendant, Dietz, to the granting of any injunction against him, upon the ground of a supposed irregularity in the service of the subpoena, as to which it appears sufficient to say that such irregularity, if it exists, affords no reason for withholding an injunction against a defendant who has notice of the motion and appears to oppose it.

Let a preliminary injunction be issued, according to the prayer of the bill, against both of the defendants.

Russell v. Place.

NATHAN C. RUSSELL

vs.

ISAAC V. PLACE ET AL.

In an action at law for the infringement of letters patent, the jury found a verdict for the plaintiff for \$700 damages. On a motion by the defendant for a new trial, the court was of opinion that the evidence, tending to prove actual damages sustained by the plaintiff, did not warrant a verdict for a greater amount than \$562.50.

Held, 1. The plaintiff might be allowed to remit the excess, instead of being required to submit to a new trial.

2. It appearing that the infringement was deliberate and intentional, and the plaintiff asking, under the statute, for an increase of the actual damages found, the court awarded judgment for \$1,200 and costs.
3. The defendant was allowed to require the plaintiff to first remit the amount of the excess of the verdict, or submit to a new trial, the order of the court thereupon to award the plaintiff judgment as aforesaid.

It is proper to increase the damages found by the jury to indemnify the plaintiff for the expenses of prosecution, especially where the infringement seems deliberate and intentional, though it may have been done under an erroneous estimate of the plaintiff's rights.

(Before WOODRUFF, J., Northern District of New York, October, 1871.)

MOTION by the defendants for a new trial, in an action at law.

Suit brought upon letters patent for an invention connected with the treatment of bark-tanned skins, to make them suitable for the manufacture of gloves. At the trial, the plaintiff had a verdict for \$700. The plaintiff also moved to increase the amount of the verdict.

Horace E. Smith, for plaintiff.

Matthew Hale and *James M. Dudley*, for defendants.

WOODRUFF, J.

(After holding that, on other grounds urged, a new trial ought not to be granted.) The proof of damages sustained by the plaintiff did not, I think, justify so large a verdict. Although the action is, in form, tort, the verdict should be for actual damages only. Where the circumstances of the case make it just and proper, the court are authorized to award, in the judgment, not exceeding three times the actual damages found by the jury; and this furnishes ample opportunity to the plaintiff to obtain whatever greater sum the court may deem reasonable. But the duty of the jury was to find the actual damages, and the burden was upon the plaintiff to establish those damages by proof.

— Yielding full weight to the presumption that, in a community where the improved leather was in great use and demand, the plaintiff would have realized the profit of preparing the skins, or an equal number of skins to those which the infringing defendants prepared by the use of the invention, the case, on the proof, stands thus: Taking the testimony most favorably for the plaintiff, the profit he lost was \$1.87½ on each dozen of skins. The defendants, in their estimate of the quantity they manufactured after the patent was reissued, made not exceeding three hundred dozen. The plaintiff's loss, on this most favorable view of the evidence, did not exceed \$562.50.

I apprehend, however, that this does not necessarily require that a new trial should be granted. The plaintiff may, if he sees fit, remit the excess.

Besides this, where the court has power, and is called upon to grant treble damages, this excess may be considered, and, in the discretion of the court, the error be fully corrected by such enhancement of damages as may seem just, to indemnify the plaintiff for the expenses of prosecution, especially where, as in this case, the infringement seems deliberate and intentional, though it may have been done under an erroneous estimate of the plaintiff's rights. The plaintiff seeks a reasonable increase of the sum found by the verdict; and I think it is a proper case for such an allowance. It is not reasonable that an inventor of a useful improvement should be compelled to spend his means in protecting himself, without indemnity, and so practically lose the benefit of the invention which the law is designed to secure to him.

Wells v. Jacques

I am disposed to award judgment for \$1,200 and costs of suit; but, if the defendants prefer that course, and that the record may conform to my views of the evidence, the plaintiff may first be required to remit the excess before mentioned, or submit to a new trial, and the order of the court thereupon will award him judgment, as just stated.

ELIZA WELLS

vs.

HENRY H. JACQUES ET AL. IN EQUITY.

The machine described in reissued letters patent for an "improvement in machinery for making hat-bodies," granted to complainant May 19, 1868, consists of a feeding apron to receive the fur, two endless rollers to carry it to the revolving brush, a picker, a revolving brush to separate and throw the fibers of fur, a perforated cone, with an exhausting cylinder beneath to receive the fur, and an intermediate tunnel or chamber to conduct the fur to the cone; the aperture of the tunnel chamber nearest the cone having a hinged hood at the upper extremity, and a hinged flap at the lower side, to regulate the deposit of fur upon the cone. These devices were separately well known before, but they were so combined by Wells that a concrete machine was contrived, capable, in the formation of hat-bodies, of performing a new and useful result.

The machine described in letters patent for an "improvement in machinery for forming hat-bodies," granted to Seth Boyden, January 10, 1860, employs, in common with the Wells machine, various mechanical devices, such as the feed apron, rollers, pickers, and perforated vacuum cone, all well known before, and which Boyden had a right to use; but the patentee claims as new a curved or bent plate-board, in lieu of the Wells chamber or tunnel, with its hood and flap, for directing and guiding the fur from the brush or picker, and properly distributing the same upon the cone.

The Supreme Court held that such a machine was no infringement of the Wells patent, but that the combination of devices by which the result was effected was not identical in the two machines, but dissimilar. Subsequently to that decision, the Wells patent was again reissued, and a

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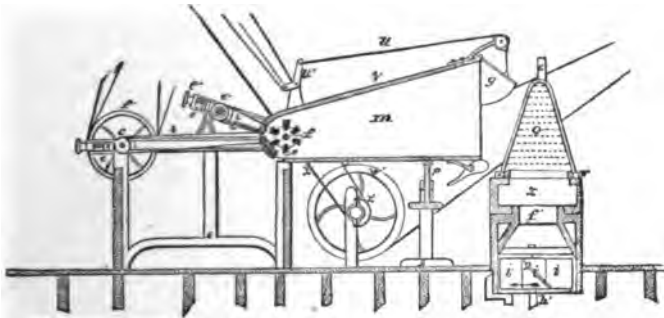
recovery was had, under the last reissue, against the defendants, in a suit at law, in the Southern District of New York. The bill, in the present case, alleged that the defendants were using the same machine against which the recovery was had, with trifling alterations in the deflecting apparatus, and prayed for an injunction: *Held*, that, under the circumstances, a provisional injunction must be refused.

(Before NIXON, J., District of New Jersey, October, 1871.)

MOTION for a provisional injunction.

Suit brought upon letters patent for "improvements in the machinery for making hat-bodies, and in the process of their manufacture," granted to Henry A. Wells, April 25, 1846. This patent was reissued in two divisions, one dated September 30, 1858, and numbered 396, the other dated October 7, 1858, and numbered 400. Reissue 396, having been extended to Eliza Wells, administratrix of Henry A. Wells, deceased, for seven years from April 25, 1860, was by her assigned to Henry A. Burr, to whom it was reissued December 4, 1860, in two divisions, numbered 1086 and 1087.

The patent having been again extended by act of Congress, for seven years from April 25, 1867, the complainant again surrendered reissue No. 1087, and obtained in lieu thereof a reissue, numbered 2942, and dated May 19, 1868.



A suit was brought by Burr, the then owner of the patent, against the defendants, upon reissues 1086 and 1087, which was tried in the Circuit Court for the District of New Jersey, in September, 1862. See *Burr v. Duryea*, 2 Fisher, 275. The court dismissed the bill upon the ground that the machine used

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by the defendants was not an infringement of complainant's patent; and this decision was affirmed by the Supreme Court. See *Burr v. Duryea*, 1 Wall. 531.

The foregoing engraving of the Wells machine will be understood in connection with the claims and the opinion.

The disclaimer and claims of reissues 1086 and 1087 were as follows:

"Having thus described the mode of application of the said invention of the said Henry A. Wells, as the same was successfully reduced to practice by him, I do not wish to be understood as limiting the claim of my invention to such mode of application, as other modes may be devised having the same mode of operation or principle, and only differing from it in form, or in the substitution of equivalent means.

"Nor do I wish to be understood as making claim therein to the combined process of forming and hardening hat-bodies on pervious cones or other analogous 'formers,' preparatory to taking them off in a suitable condition for the after-process of sizing by felting, as this is the subject of another patent.

"What I claim as the invention of the said Henry A. Wells in machinery for forming bats of fur fibers in the manufacture of fur hat-bodies, is the mode of operation, substantially as herein described, of forming bats of fur fibers, of the required varying thickness, from brim to tip; which mode of operation results from the combination of the rotating picking mechanism, or the equivalent thereof, the pervious 'former' and its exhausting mechanism, or the equivalent thereof, and the means for directing the fur-bearing current, or the equivalent thereof, as set forth.

"I also claim the combination of the rotating mechanism, or the equivalent thereof, the pervious former, with its exhausting mechanism, and the lower reflector, substantially as described, to regulate the deposit of the fur fibers on the lower part of the former, as described.

"I also claim the combination of the rotating picking mechanism, or the equivalent thereof, the pervious former with its exhausting mechanism, and the upper deflector, substantially as described, to regulate the deposit of the fur fibers on the tip of the pervious former, as set forth.

"And, finally, I claim the combination of the rotating picking mechanism, the pervious former with its exhausting mechanism, and the means described, or the equivalent thereof, for inducing a current of air to aid in carrying and giving direction to the fur, and insuring its proper deposit on the surface of the pervious former, as required, as set forth."

The claim of reissue 1087 was as follows:

"What I claim as the invention of Henry A. Wells is the process of forming fur hat-bodies by depositing fur fibers to a suitable thickness on the surface of a pervious former of the required shape, and holding them thereon by the pressure of the surrounding air as they are deposited, and then hardening or partially felting the bat so formed, and while it is held by suitable pressure on the surface of the former, to give it the required consistency to admit of removing it therefrom in a suitable condition for the after-process of sizing by felting, as set forth."

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The claims of reissue 2942, obtained after the decision in *Burr v. Duryea*, and upon which the present suit was brought, were as follows :

"1. The combination of the rotating brush or picker, substantially such as described; the rotating pervious cone, provided with an exhausting mechanism, substantially as described, and the bottom plate or guide, substantially as described, for directing the fur fibers toward the lower part of the cone, and preventing the fibers going to waste, the said combination having the mode of operation specified, and for the purpose set forth.

"2. The combination of the feed apron, the rotating brush or picker, substantially as described; the rotating pervious cone, provided with an exhausting mechanism, substantially as described; and the guide or deflector, for directing the fur fibers on to the tip and upper part of the cone, substantially as described, the said combination having the mode of operation specified, and for the purpose set forth.

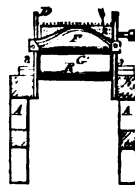
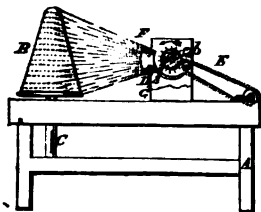
"3. The combination of the rotating brush or picker, substantially as described; the rotating pervious cone, provided with an exhausting mechanism, substantially as described, and the side guides, or either of them, substantially as described, to prevent fur fibers from getting out of the proper influence of the currents traveling to the cone, and to protect the traveling fibers from disturbing currents, the said combination having the mode of operation specified, and for the purposes set forth.

"4. The combination of the feeding apron, on which the fur can be placed in separate batches, as described; the rotating brush or picker, substantially as described; the rotating pervious cone or former, provided with an exhausting mechanism, substantially as described, the said combination having a mode of operation substantially as described.

"5. The combination of the feed apron, on which the fur fibers can be placed in separate batches, each in quantity sufficient to make one hat-body; the rotating brush or picker, substantially as described; the rotating pervious cone, provided with an exhausting mechanism; and the devices for guiding the fur fibers, substantially as described, the combination having the mode of operation specified, and for the purpose set forth.

"6. In combination with the pervious cone, provided with an exhausting mechanism, substantially as described, the covering cloth, wet with hot water, substantially as and for the purpose specified."

The defendants were using machines which they claimed to be constructed under letters patent for "improvement in machinery for forming hat-bodies," invented by Seth Boyden, and issued to him and H. H. Jacques, one of the defendants, January 10, 1860.



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The Boyden invention, which is illustrated by the foregoing engraving, consisted in placing directly in front of the picker a plate so bent or curved that its surface would have a certain relative position to the axis of the picker and the surface of the cone, and give such a direction to the fur, as the latter is thrown upon it, by the rapid motion of the picker, that the fur will be drawn and deposited upon the cone by the exhaust or suction within it. The leading differences between the mode of operation of this machine and that of Wells will be understood by reference to the engravings, in connection with the explanations in the opinion of the court.

The claim of the Boyden patent was as follows :

"The fur director or plate, F, curved or bent, substantially as shown and arranged in relation with the cone, B, and picker, D, to operate substantially as and for the purpose set forth."

H. Traphagen and E. N. Dickersen, for complainant.

Courtland Parker, for defendants.

NIXON, J.

This case has been heard on motion for a preliminary injunction to restrain the defendants from the use of a machine for forming hat-bodies, alleged to be an infringement of the Wells patent.

The complainant is the widow of Henry A. Wells, to whom letters patent were granted and issued April 25, 1846, for "new and useful improvements in machinery for making hat-bodies." Wells having departed this life before the expiration of the term for which the said letters patent were granted, this complainant, as his widow and administratrix, made application to the Commissioner of Patents for an extension of the term, pursuant to the acts of Congress, and the same was renewed and extended for the further period of seven years.

Before the end of this renewal, the complainant applied to the Congress of the United States to grant to her, for an extended term, the exclusive right to make, use, and vend the said invention of Wells, for the benefit of his heirs ; and an act was passed March 2, 1867, again extending the said patent to the complain-

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ant, as administratrix of Wells, for the period of seven years from April 25, 1867.

The complainant afterward surrendered the letters patent, thus extended, to the Commissioner of Patents, and new letters patent, numbered 2942, were reissued to her, May 19, 1868, for the unexpired period of the term granted to her by said act of Congress, by virtue of which reissue she claims the exclusive right of making, using, and vending to others to be used, the said invention and improvement.

The allegations of the complainant's bill are, that she commenced a suit in the Circuit Court of the United States for the Southern District of New York, upon the said reissued letters patent, against Henry H. Jacques and Henry W. Duryea, two of the defendants in this cause; that, upon issue joined and trial had, the invention of Wells was found by the jury to be new; that a verdict was rendered for complainant, and judgment entered thereon; that the defendants have been using machines at Newark, New Jersey, ever since the granting of said reissued letters patent, and which are the same as those upon which said last-mentioned suit was brought, which machines were, and up to the time of the said trial, continued to be the property of the said Henry W. Duryea, and were by him leased or let to the said defendants, the Newark Patent Hat-body Company, who were using the same in violation of the rights of said complainant; that said machines were the identical ones for the use of which, for the short period between the reissue of said patent and the commencement of said suit, said recovery was had; and that, since said recovery, trifling alterations in the deflecting apparatus have been made, not affecting the principle and mode of operation of said machine.

These allegations are met by various affidavits produced by the defendants, setting forth the state of the art at the time of the procurement of the Wells patent, and denying that Wells was the first and original inventor of the improvements claimed by him, alleging that the machines used by the defendants for several years past are of the Boyden patent, with some variations, in no wise changing the principle or mode of operation of said patent; that the Supreme Court of the United States, in the case of *Burr v. Duryea*, 1 Wall. 531, affirmed the decree of this court, holding

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that the said Boyden patent, for an "improvement in machinery for forming hat-bodies," was not an infringement of the patent granted to Wells for the same thing, and that since then the defendants have kept themselves strictly within the principle of that decision; that the trial in the Circuit Court of the United States for the Southern District of New York, in January last, between the complainant and two of the defendants, turned mainly upon the fact that the machine introduced as the one then used by the defendants materially differed from the machine which was shown to have been in use by said defendants, in the case in the Supreme Court; that the utmost effect which can be given to the verdict of the jury and the judgment of the court in the case of *Wells. Adm'x, v. Jacques et al.*, in New York, is that the defendants had no right to change the device or instrumentality of the Boyden patent for guiding and conducting the fur from the picker, and for properly distributing the same upon the perforated cone, from a curved mold-board, specified in the patent, or from the stepped mold-board, as exhibited in the argument of the case of *Burr v. Duryea*, into a plate with projecting tins or strips of tins, whereby it was alleged the machine was made to perform the same office, and by substantially the same means as the Wells patent; and that, although the said defendants do not regard the judgment in that case as final, because a bill of exception has been prepared, and a motion for a new trial is pending, having ultimate reference to a writ of error, if the motion is denied, yet they at once discontinued the use of the deflecting tins in deference to the said judgment, and have since only employed the precise means of conducting the fur from the picker to the cone, which the court of last resort, in the case of *Burr v. Duryea*, determined was not an infringement of the Wells patent.

I have carefully examined the huge mass of evidence—much of it the outgrowth of former litigation upon this subject—which the learning and industry of able counsel have placed in my hands, and I do not know that I can better give the reasons for the result to which I have arrived than to state briefly what I understand to be the Wells patent, under which the complainant claims, and the Boyden patent, under which the defendants claim, and then to inquire whether I ought, at this preliminary stage of

the case, to undertake to settle by injunction the disputed facts, which, ordinarily, are only settled upon final hearing.

1. What is the Wells patent?

The original patent was issued April 25, 1846, to Henry A. Wells, the husband of the complainant, and through whom she derives her title. It was for a machine for forming, on hollow perforated cones, hat-bodies, and for a process for removing the bodies from the cones after they had been so formed, in such a condition that its fibers could be afterward felted together to a proper degree by hand.

In his original specifications, he alleged that his improvements consisted in feeding the fur, after it had been picked, to a rotating brush between two endless belts of cloth, one above the other, the lower one horizontal and the upper inclined, to gradually compress the fur and gripe it more effectually where it was presented to the action of the rotating brush, which, moving at great velocity, threw it in a chamber or tunnel which was gradually changed in form toward the outlet, where it assumed a shape nearly corresponding to a vertical section passing through the axis of the cone, but narrower, for the purpose of concentrating and directing the fur thrown by the brush into the cone, this casing being provided with an aperture immediately under the brush, through which a current of air entered in consequence of the rotation of the brush, and the exhaustion of the cone, for the purpose of more effectually directing the fibers toward the cone, which was placed just in front of the delivery aperture of the chamber or tunnel, which aperture was provided at the top with a bonnet or hood, hinged thereto, and at the bottom with a hinged flap, to regulate the deposits of the fibers on the cone, with a view to distribute the thickness of the bat whenever more was required to give additional strength.

Besides the machine, he also included a claim for a process for hardening the vat whilst on the perforated cone or former, and preparatory to its removal therefrom, by immersing it in hot water; and for covering the vat with felted or fulled cloth, before it was removed from the cone or former.

His machine, then, as described, consisted of a feeding apron to receive the fur, two endless rollers to carry it to the revolving brush or picker, a revolving brush to separate and throw the

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fibers of fur, a perforated cone, with an exhausting cylinder beneath, to receive the fur, and an intermediate tunnel or chamber to conduct the fur to the cone ; the aperture of this tunnel or chamber nearest the cone having a hinged hood at the upper extremity, and a hinged flap on the lower side, which, acting in combination with the hood, increased the thickness of the vat upon the cone, where, in the formation of a hat-body, more thickness was required. In its construction, he used a combination of mechanical devices—the feeding apron, the endless roller, the revolving brush or picker, the perforated vacuum cone, the intermediate trunk or conductor, all of which were before well known in the arts, and not claimed by him, in themselves, as new ; but so combined that a concrete machine was contrived, capable, in the formation of hat-bodies, of producing a new and most useful result.

The defect of former machines was that the deposit of the fur upon the cone could not be properly regulated. To make a good hat-body, the material requires to be distributed in unequal quantities—thicker where the brim joins on to the body to secure strength, and thinner at the top to secure lightness.

It is claimed for the Wells patent that he made such a combination of devices that the particles of fur, after their disintegration, were caused to pass from the brush to the cone in such varying density as to make the vat of varying thickness, according to the desire of the manufacturer, and that this result is produced by a tunnel or chamber, through which the fur is carried, by the currents of air, to the cone, with a flap underneath and a hood above, capable of such adjustment that distribution of the fur upon the cone, as to thickness or density, is subject to the will and under the control of the operator. Besides the surrender and re-issue of this patent, made by the complainant in May, 1868, above referred to, the same was first surrendered by the assignees of Wells, in September, 1856, and reissued to them in two separate patents—one for the machine, and the other for the process. Still another surrender was made in 1860 ; and, upon what was alleged to be amended specifications, letters patent, numbered 1086 and 1087 respectively, were reissued—the first for the process, and the latter for the machine.

2. What is the Boyden patent?

The letters patent for the Seth Boyden machine were granted

January 10, 1860, and were for "improvement in machinery for forming hat-bodies." He thus describes his invention :

" This invention relates to an improved mode of directing or guiding the fur to the cone, as hereinafter fully shown and described, and whereby trunks and other comparatively complicated appliances, hitherto used for the purpose, are dispensed with, and an exceedingly simple and efficient device substituted therefor.

" The invention consists in placing directly in front of the picker a plate, so bent or curved that its surface will have a certain relative position with the axis of the picker and the surface of the cone, and give such direction to the fur, as the latter is thrown on it by the rapid motion of the picker, that the fur will be drawn properly on the cone by the exhaust or suction within it."

Then, after more specifically describing his invention by the use of a diagram, he proceeds :

" The peculiar curvature of the plate not only gives the proper direction to the fur, so that the latter may properly cover the cone, but it also directs the fur to the cone in proper quantities ; for instance, the central or highest part of the plate is comparatively a short curve, and directs a small quantity of fur to the upper part of the cone, where but a small quantity is required ; but it will be seen that the lower part of the plate has a double-curved surface to supply the cone, one at each side of its center, so that the cone will be properly fed or supplied, the supply gradually increasing from the top to the bottom of the cone.

" I would remark that, although the surface of the plate has been described as being in planes extending from the apex to the base of the cone, and all bisecting the axis of the picker, still a slight departure is made from this rule, and that is, the plate is slightly elevated at its outer edges or toward the cone, from the positions above stated, in order to compensate for quantity, the latter serving to counteract, in a measure, the power of the exhaust, and that of the picker, and give a downward movement to the fur. By slightly elevating the direction of the fur above its otherwise proper path, due provision is made for such a contingency."

He then disclaims the cone, picker, and feed apron, but claims as new the fur director plate, curved or bent, substantially as

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shown, and arranged in relation to the cone and picker, to operate substantially as and for the purpose set forth.

This is the description of the patent, as given by the inventor himself. He uses, in common with Wells, various mechanical devices, such as the feed apron, rollers, pickers, and perforated vacuum cone, well known before, and which he had the right to use, but claims as new a curved or bent plate-board, in lieu of a chamber or tunnel, with hood and flap, for directing or guiding the fur from the brush or picker, and properly distributing the same upon the cone.

Whether this machine, thus constructed, is an infringement of the Wells patent, was the precise question before this court in the case of *Burr v. Duryea*, 2 Fisher, 275, and it was held to be no infringement. The decree, upon an appeal, and after an able and exhaustive discussion by counsel, was affirmed by the Supreme Court of the United States. 1 Wall. 531.

The court held that, although the Boyden machine might produce the same effect that was secured by the Wells patent, to wit, such a regulated deposit of fur upon the cone that a hat-body was the result, yet the combination of devices by which that result was effected was not identical, but dissimilar; and that the subject matter of the patent being a machine, the inventor had no right to surrender it, and, upon a reissue, claim for a "mode of operation," and thereby hinder other inventors from reaching the same end, or producing the same effect, by other substantially different mechanical parts or contrivances.

Adverting again to the bill of the complainant in this case, she substantially charges that the defendants have been using machines ever since the granting of her reissued letters patent, which are the identical ones for the use of which the recovery in the New York suit was had; and that, since said recovery, trifling alterations in the deflecting apparatus have been made, not affecting the principle and mode of operation of said machines.

The charge, then, is an infringement of the Wells patent—a colorable invasion being attempted by certain changes in the working apparatus of the machine, not affecting the mode of operation.

This charge is specially denied in the affidavits submitted by defendants. Without dwelling upon the depositions of Hibbard

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and Eliot, who are offered as experts, to exhibit and illustrate the difference between the machine of the defendants and the Wells patent, and without giving any weight to what they testify as to the want of novelty of the Wells patent, deeming it now too late to attempt to raise any such issue, the testimony of Campbell, the foreman of the corporation defendant, and of Jacques, one of the defendants, prove that the defendants ceased to use the projecting tin plates immediately after the verdict in the New York case, and have confined themselves to the use of the Boyden patent, with curved or stepped mold-boards, of the nature and character which they exhibited and admitted that they used in the case of *Burr v. Duryea*.

The Supreme Court having decided that such a use of the Boyden machine is not an infringement of the Wells patent; and the complainant, in her bill, having alleged that the defendants have made trifling alterations in the deflecting apparatus of the machine that do not affect its principle or mode of operation,—which is denied by the affidavits of the witnesses of the defendants, a question of fact is raised, which I can not satisfactorily consider and settle at this stage of the proceedings, but can best determine upon final hearing.

I am therefore constrained, under the somewhat peculiar circumstances of this case, as now presented, to refuse the request of the complainant for a provisional injunction, and leave the whole case for a final hearing upon the merits.

The injunction is refused.

Pennsylvania Salt Mfg. Co. v. Thomas.

PENNSYLVANIA SALT MANUFACTURING COMPANY.

vs.

E. A. THOMAS. IN EQUITY.

Where an original patent is reissued in divisions, such divisions are to be treated as but one patent with several claims.

Discrepancy in the titles and variations in the description and claims of the original and reissued patents will not avoid the latter. That can only result from diversity of subject matter.

Where the original specification distinctly indicated caustic alkali, prepared for general domestic use, as the invention of the patentee, but did not technically claim it: *Held*, that this was the proper subject of amendment.

The patentability of an alleged invention is, in many cases, most satisfactorily shown by its utility.

Letters patent for caustic alkali, inclosed in a tight metallic casing or integument, as reissued to George Thompson, April 16, 1867, examined and sustained.

Differences in the method of incasing the soda and sealing the packages do not relieve the defendant from the charge of infringement.

(Before McKENNAN, J., Eastern District of Pennsylvania, October, 1871.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for "improvement in devices for putting up caustic alkalies," granted to George Thompson, October 21, 1856, and reissued to him in three divisions, Nos. 2569, 2570, and 2571, of which Nos. 2569 and 2571 were for "improvements in the manufacture of caustic alkali," and No. 2570 was for an "improved process of putting up caustic alkali."

The nature of the invention is more fully stated in the report of *Pennsylvania Salt Mfg. Co. v. Gugenheim*, 3 Fisher, 423.

George Harding, for complainant.

John A. Burton, for defendant.

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McKENNAN, J.

The complainant is the assignee of George Thompson, to whom reissued letters patent, Nos. 2570 and 2571 were granted, for the unexpired term of fourteen years, from October 21, 1856. The first is for the process of putting up caustic alkali (soda or potassa) in metallic casing or integument, by pouring the molten caustic alkali into the casing, and then closing up the top; and the other is for caustic alkali, inclosed in a tight metallic integument or metallic casing. One is for the process of putting up caustic alkali; the other for the product of such process.

The validity of these reissues is assailed upon the ground that they are not for the same invention described in the original patent. They are divisions of the original patent, and are therefore to be treated as but one patent, with two distinct claims. Although this division of the patent may have been unnecessary to effectuate the invention, it in no wise impairs the validity of the reissues. Nor will discrepancy in the titles, and variations in the description and claims of the original and reissued patent avoid the latter. This effect results only from diversity of subject matter. *Battin v. Taggart*, 17 How. 84.

The material inquiry then is: Is the subject matter of both patents the same invention? In other words, are the process and the product claimed in the reissues substantially described in the original?

In the original patent the nature of the invention is stated to consist in "a new and useful mode of wrapping cakes of potash or caustic soda in air-tight wrappings, so as to preserve it from the action of the atmosphere, being designed to enable the manufacturer of these caustic alkalies to put them up in original packages of uniform size and weight, of such convenient size that when a package is opened the whole may be used at once." Two modes of carrying the invention into effect are described. One is to provide canisters of thin sheet-iron, cemented at the joints with inflexible cement, into which the caustic alkali is poured in a molten state, and while hot the lid is closely fastened down, so as to exclude the atmosphere. Now, while this patent describes and claims the process of putting up caustic alkali in air-tight integuments, it describes also the object and result of the process. Packages of caustic alkali are produced of uniform weight, and

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such convenient size that when a package is opened the whole may be used at once. The very object of the description is to indicate a product possessing original merits as the result of an improved process.

In reissue No. 2570, which is for "an improved process of putting up caustic alkali," the description of the process is, manifestly, in substantial accordance with the description in the original specification.

Reissue No. 2571 is for an "improvement in the manufacture of caustic alkali," and claims "caustic alkali, incased or enveloped in a tight metallic integument or casing, substantially as above described." The mode of incasing it, and its peculiar properties when so incased, are distinctly described and stated, and with no material variation of phraseology from that employed in the original specification.

It is apparent that the subject of both specifications is caustic alkali, so put up and prepared as to secure special commercial properties, protection against deliquescence, capability of safe transportation, and adaptation to general use. The reissued patent, then, is for the same alleged invention described in the original specification, and the apparent object of the amendment was to make an explicit claim for it as a new article of manufacture and commerce, which was distinctly indicated as the patentee's invention; but was not technically claimed in the original specification.

It has been repeatedly adjudged that this may be done. "This," says Mr. Justice McLean, in *Battin v. Taggart*, 17 How. 84, "the patentee had a right to do. He had a right to restrict or enlarge his claim, so as to give it validity and effectuate his invention." And so Mr. Justice Grier held, in passing upon this patent, in this court, in *Pennsylvania Salt Manufacturing Co. v. Gugenheim*, 3 Fisher, 423.

The respondent further objects to the patent, that the invention claimed is not novel. I do not propose to notice in detail the evidence adduced on this point. It is sufficient to say of it generally that it does not prove that the product, with the distinguishing properties claimed by the patentee to belong to his, was in use before his invention. The hydrate of soda was a well-known chemical substance, rapidly deliquescent when exposed to the air, and, by

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reason of its causticity, difficult to handle and dangerous to transport. An obvious security against these risks was to inclose it in anti-corrosive air-tight vessels, and so it was treated; but in the modes adopted for its preservation it was only employed in the laboratory, in surgical operations, and in the arts, which would admit of the use of large quantities of it at one time.

It was not until George Thompson, after repeated experiments, perfected his method of putting it up, that caustic soda was brought into very general household use in the manufacture of soap. This was undoubtedly due to the plan devised by him for its preparation, whereby portability, safety, and convenience in handling and transportation, and special adaptation to domestic use were for the first time secured. The proofs, therefore, fall short of overcoming the presumption of novelty arising from the patent.

A graver objection is that which brings in question the patentability of the alleged invention. A patentable subject must be not only new and useful, but it must involve some exercise of the inventive faculty, and it must not be merely the application of an old thing to a new use. It is undoubtedly true that small metal cans and infusible cement were in use before Thompson's invention, and that caustic alkalies were preserved from deliquescence by inclosure in air-tight packages of glass, iron, and wood; but still the fact remained that caustic soda was unavailable for general use, and especially for the domestic manufacture of soap. By Thompson's method, it was invested with commercial properties and practical adaptabilities which did not pertain to it before.

Its deliquescent tendency and corrosiveness confined its consumption within narrow limits. By Thompson's efforts these difficulties were practically overcome, and it was fitted for general use and the supply of a universal want. In the language of Mr. Justice Livingston, in *Langdon v. De Groot*, 1 Paine, 206, it was rendered "more portable and convenient for use." The effect was immensely to increase its consumption in the domestic production of soap, which was before manufactured by other methods, or in large establishments only. Indeed, it may be considered as originating a new branch of domestic manufacture. This is certainly indicative of original merit, and is demonstrative of its great public utility.

The patentability of an alleged invention is, in many cases,

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most satisfactorily shown by its utility. In Webster, on "Subject Matter," 30, it is said: "The utility, then, of the change, as ascertained by its consequences, is the real practical test of the sufficiency of an invention; and since the one can not exist without the other, the existence of one may be presumed in proof of the existence of the other. Wherever the utility is proved to exist in any great degree, a sufficiency of invention to support the patent must be presumed." Judged by the standard of utility, then, a sufficiency of invention to support this patent is to be presumed.

In a commercial sense, it has just claims to be regarded as a new product. It was so treated by Commissioner Mason in the original application for a patent. In his opinion, he very forcibly says: "Had he discovered an ingredient which, mixed with alkali, would, without injury to its properties in other respects, have prevented it from a tendency to deliquescence, he would have made a patentable discovery. Is this not equally so? In fact, the packages of alkali, done up as proposed, may, in substance, be deemed a new commodity, a new article of merchandise, for, although its constituent ingredients are the same as were before known and used, a new property has in reality been communicated to it. In point of fact, the article now offered for sale is the alkali without any tendency to deliquescence; this, though chemically not new, is so commercially, and is so proved by the affidavits filed." Equally satisfactory proof of this has been exhibited in this case, and to this is to be added the wide extension of its use as a significant recognition of its novelty as a commercial product.

The whole question was before this court in the *Pennsylvania Salt Manufacturing Co. v. Gugenheim* (supra), and the patent was held to be valid. Such a judgment, pronounced by a judge whose knowledge, experience, and ability invests his opinion with the weight of high authority, must and ought to overbear all doubts upon the subject in this controversy.

That there are differences in the methods employed by the complainant and respondent to incase the soda and seal the packages is doubtless true; but the product of both is substantially the same, viz., caustic soda incased or enveloped in a tight metallic integument, which may be preserved and transported, and thus introduced into general use.

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The respondent is, therefore, an infringer.
 ✓ Inasmuch as the patent of the complainant expired October 21, 1870, a decree for an account only can be entered, which is according directed. / Let a similar decree be entered in the case of *Pennsylvania Salt Mfg. Co. v. Barry*.

L. FRANCIS AND C. H. LOUTREL

vs.

A. MELLOR AND H. RITTENHOUSE. IN EQUITY.

Patents are to be construed liberally, so as to sustain and not destroy the right of the inventor.

Hence, the whole of the specification may and should be looked at, not only to learn from the description of the invention how to make it, but to ascertain what it really is.

It is not only where the specification is expressly referred to that the claim is to be construed in connection with it, but, as a general rule, the explanations contained in it are to be taken as the inventor's own interpreter of the meaning of his claim.

Where, in the body of the specification, a composition of matter is described as the product of glue, glycerine, and sugar, united in certain specified proportions, it being added that the proportions may, in some cases be advantageously varied, but the claim is for "combining glue, glycerine, and sugar, or any other analogous saccharine matter, to form a new and useful composition of matter:" *Held*, that the patent is not broadly for a substance composed of these ingredients, irrespective of the proportions in which they are combined, but for one produced in substantial or approximate accordance with the formulas given in the specification.

Seemle, that where the original patent described a composition for printers' inking-rollers as consisting of glue, glycerine, castor-oil, or any of the fixed oils, borax, ammonia, and sugar, mixed in certain approximately-specified proportions, and claimed "the use of the ingredients specified, when combined to form a composition for the manufacture of printers' inking-rollers," a claim upon reissue for "combining glue, glycerine, and sugar, or any other analogous saccharine matter, to

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form a new and useful composition of matter for various purposes," can not, if construed in its broadest significance, be sustained.

While characteristic resemblance is preserved between two compositions of matter, they may, perhaps, be considered as identical, within the meaning of the patent law, although one of them may not contain some of the constituents of the other, which are not necessary to impart to it its peculiar attributes.

If known elements are combined in new proportions, and the result is a product possessing distinct properties and applicable to distinct uses, this must be regarded as a patentable subject.

Where only approximate proportions are named in the specification for the several elements of a given composition of matter, the right to vary these proportions is not unlimited. It can only extend to any adjustment which will result in the production of a substance possessing the peculiar properties attributed to the substance described in the patent.

(Before McKENNAN, J., Eastern District of Pennsylvania, October, 1871.)

FINAL hearing on pleadings and proofs.

Suit brought upon two letters patent for "improved composition for printers' inking-rollers." The first patent was granted to Lewis Francis and F. W. Letmate, June 21, 1864, and reissued November 26, 1867. The infringement of this patent was expressly denied by defendants, and no proof was offered by the complainants to maintain the same.

The second patent was granted to Lewis Francis, March 8, 1864, and reissued in two divisions, Nos. 1771 and 1772, September 27, 1864. Reissue No. 1772 was reissued February 28, 1865, and August 3, 1869.

The original patent of March 8, 1864, described an improved composition in the manufacture of printers' inking-rollers, the ingredients employed being "combined in about the following proportions, namely :

" Glue,	- - - - -	14 pounds.
Glycerine,	- - - - -	28 "
Castor-oil, or any of the fixed oils,	- - - - -	2½ "
Borax,	- - - - -	3 ounces.
Ammonia,	- - - - -	2 "
Sugar,	- - - - -	7 pounds."

The glue, before being added to the heated glycerine, was to

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be soaked in water in which lime had been dissolved. The specification concluded as follows :

" I do not wish to be understood as confining myself to the use of lime, ammonia, or borax, as any of the alkalies or alkaline earths, or alkaline compounds of any of the alkaline earths or alkalies, may be used. Neither do I intend to confine myself to the use of the ingredients employed by me in the proportions herein set forth, as, in some cases, it may be necessary to vary their proportions. * * * I claim the use or employment of the ingredients specified, when combined to form a composition for the manufacture of printers' inking-rollers."

The reissue of August 3, 1869, omits all reference to the use of the lime, the ammonia, the borax, and the oil, in making the improved composition, and specifies the following approximate proportions of the remaining ingredients, viz :

" Glue, - - - - -	15 pounds.
Glycerine, - - - - -	30 pounds.
Sugar, or other analogous crystallizable saccharine matter, 7 pounds."	

The claim is in these words :

"Combining glue, glycerine, and sugar, or any other analogous saccharine matter, to form a new and useful combination of matter for various purposes."

The defendants, in their answer to the bill, admitted the use of glue, glycerine, and sugar, in varying proportions, in the manufacture of inking-rollers, but denied that they had used these ingredients in proportions or in a mode conforming to those specified in complainants' patent, averring that the compositions made and sold by them were substantially and materially different from those described and claimed in the patent, and were "in no wise a violation or infringement of any right or privilege validly secured to or vested in" the complainants.

It was insisted by the complainants that this apparent denial of infringement was not direct and unequivocal; that the claim of the patent was to be construed broadly, irrespective of the proportions in which the ingredients were used, and, therefore, that the answer was, in fact, an admission of infringement. No direct proofs of infringement were offered. On the other hand, it was urged by the defendants that the patent should be interpreted by

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the formula stated in the specification, and not by the technical claim, and that, with this construction, the answer constituted a full and sufficient denial of the infringement charged.

Horace Binney, 3d., and George Harding, for complainants.

Charles Howson and Furman Sheppard, for defendants.

McKENNAN, J.

The respondents are charged with the infringement of reissued letters patent No. 3576, dated August 3, 1869, and No. 2805, dated November 26, 1867, for new and useful compositions of matter. The original of the first of these reissues, No. 41887, was issued March 8, 1864, and was surrendered and reissued September 27, 1864, in two divisions, Nos. 1771 and 1772. No. 1772 was again surrendered and reissued February 28, 1865, which was also surrendered and reissued in its present form. No. 2805 is a reissue of No. 43192, dated June 21, 1864.

The respondents opposed a decree in favor of the complainants upon several grounds, involving the validity of the reissued patents and the novelty and utility of the alleged invention; but, in view of the state of the proofs, I do not consider it necessary or proper to consider them. Irrespective of these grounds the case must be decided against the complainants. Whatever may be the merits of their inventions, however defensible their title, they have failed to prove that the respondents are infringers.

The claim of 2805, as limited by a disclaimer of the patentees, is for a composition for printing purposes, combining glue, glycerine, and molasses. The bill alleges that the respondents have made, used, or sold a composition embodying these ingredients; but this, in the words of the interrogatory of the bill, the respondents deny. No proof is produced by the complainants of the truth of their averment, and this patent, therefore, must be put out of the case.

The claim of 3576 is for "combining glue, glycerine, and sugar, or any other analogous saccharine matter, to form a new and useful composition of matter for various purposes." With the infringement of this claim, the respondents are charged, and they answer "that they have for about — years been engaged, in the

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city of Philadelphia, in the manufacture of composition for printers' inking-rollers, said composition containing, with other ingredients, the common and for many, the last twelve, years past, well known ingredients for such purpose, glue, glycerine, and sugar, employed in varying proportions, but in no case in proportions or in mode conforming to those specified in the said plaintiffs' said respective letters patent; and defendants further aver that the said compositions so made and sold by them were and are substantially and materially different from the compositions described and claimed in said plaintiffs' said respective letters patent." This answer is treated by the complainants as an admission of infringement, and no proof has, therefore, been taken in relation to it.

That the complainants have succeeded in producing a valuable composition, adapted to various useful purposes, is beyond dispute; but whether they are justified in treating the respondents' answer as a confession that they have made and used it, depends, necessarily, upon the construction of the patent.

Patents are to be construed liberally, so as to sustain and not destroy the right of the inventor. Hence the whole of the specification may and should be looked at, to learn from the description of the invention not only how to make it, but to ascertain what it really is. By the requirements of the statute, the description must be in full, clear, and exact terms; and it is, therefore, an authorized guide to an accurate comprehension of what the patentee meant to claim as his invention. It is not only where the specification is expressly referred to that the claim is to be construed in connection with it; but, as a general rule, the explanations contained in it are to be taken as the inventor's own interpreter of the meaning of his claim, and of the essential qualities of the invention protected by his patent. *Turrill v. R. R. Co.*, 1 Wall. 511; Curtis on Patents, secs. 453, 454.

The claim in this case is for combining glue, glycerine, and sugar, or any other analogous saccharine matter, to form a composition for various purposes. In the body of the specification, the proportions in which the ingredients are to be combined are given, approximately, thus :

"Glue,	-	-	-	-	-	-	-	15 pounds.
Glycerine,	-	-	-	-	-	-	-	30 pounds.
Sugar or other analogous crystallizable matter,	-	-						7 pounds."

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But it is stated that "it is not intended to confine the patent to the use of the ingredients specified, in the proportions specified, as those proportions may, in some cases, be advantageously varied."

It is plain that the patent is not for the mode or process of making the composition. It is for a composition embodying glue, glycerine, and sugar; but is it broadly for a substance containing these ingredients without regard to the proportions in which they are combined, or is it for a substance produced by their conjunction in substantial or approximate accordance with the formulas given in the specification?

If the claim is to be construed in its broadest significance, it is difficult to see how this reissued patent can be sustained. It is the third reissue of a patent whose claim is for the use or employment of glue, glycerine, castor-oil, or any fixed oil, ammonia, borax, and sugar, when combined to form a composition for the manufacture of printers' inking-rollers. Now, if the composition claimed in the reissue is to be treated with reference exclusively to its constituent parts, it is not identical with the composition for which the original patent was granted. A compound of glue, glycerine, and sugar is not physically the same as a compound consisting of these ingredients, with a fixed oil, ammonia, and borax added to them. They can only be regarded as the same in another sense, as possessing like special and distinguishing properties and like adaptability to the uses for which they are designed. While characteristic resemblance is preserved, they may, perhaps, be considered as identical within the meaning of the patent law, although one of them may not contain some of the constituents of the other, which are not necessary to impart to it its peculiar attributes.

The patent, however, should be so construed as not to avoid it. That conclusion can be averted by interpreting it as claiming a composition of matter distinguished by new and useful qualities, which are the product of the conjunction of certain elements in prescribed relative proportions.

It is apparent that the complainants have produced a substance of great practical excellence, possessing peculiar and valuable properties; and that these constitute its patentable merit. The complainants can not successfully claim to be the first to com-

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pound glue, glycerine, and sugar ; but they may claim to have discovered that these elements may be combined in such proportions as to yield a new product. Charles and Nelson Goodyear conferred inestimable benefit upon the world by the production of substances respectively known as hard and soft rubber. They were not the first to combine the constituents of these substances, but both were treated as original inventors, although their inventions were the product of a combination of the same elements, native India rubber and sulphur. But the proportions in which these elements were combined were different, and the result was a product possessing distinct properties, and applicable to different uses, and so they were each regarded as patentable substances.

The distinctiveness of the complainants' invention must in like manner be determined by its inherently new and useful attributes. It is described as uniting elasticity, firmness, "suction," freedom from the influence of atmospheric changes, susceptibility of recasting, and therefore of indefinite use ; and that thereby it is distinguishable from other compositions used for like purposes. That these properties are due to an empirical combination of glue, glycerine, and sugar can not be maintained. They are the product as well of the graduated proportions as of the mechanical union of these ingredients. Glycerine must be used in excess of either of the other ingredients, or the compound will lack some of its most valuable qualities. And it may be said of the other ingredients that they must be employed in proper relative proportions to secure the characteristic merits of the product. These are obvious deductions from the testimony of the complainant, Francis.

As the proper adjustment of proportions, then, is essential to the efficiency of the invention, it is a reasonable construction of the patent to expound it as claiming substantial conformity to the specific proportions of glue, glycerine, and sugar, as well as their conjoint use, in producing the described result. Exact conformity to these proportions is not required, because they are stated as approximate, and the right is claimed to vary them. But this right is not unlimited. It can only extend to any adjustment of proportions which will result in the production of a substance possessing the peculiar properties attributed to the substance described in the patent. Substantial identity of result is the test of substantial

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conformity to the mode of combination prescribed in the specification.

The respondents deny that in making the compounds used by them they have conformed to the proportions or adopted the mode specified in the patent; and they aver that their compositions are substantially and materially different from that described and claimed by the complainants. In view of the construction given to the patent, this is not an admission of infringement, but a denial that either in the proportions or mode of combination observed, or the result produced, the compositions made and used by them are the same as the compositions claimed by the complainants. This denial imposed upon the complainants the burden of proving the fact of infringement; but as they have furnished no proof of it, they have failed to sustain their bill, and it must therefore be dismissed, with costs.

Decreed accordingly.

CHARLES MAY ET AL

vs.

HENRY CHAFFEE ET AL. IN EQUITY.

A. and B., general owners of a patent, except for certain counties in Michigan, united with C., the owner of those counties, in appointing D. their attorney and agent, to sell the patented improvement in whole or in part. In a conveyance of a right to manufacture and sell in Chicago, Illinois, the agent signed the names of A. and B., but not of C.: *Held*, that C. had no interest in the territory conveyed, and that it was not necessary that he should join in the grant.

The owners of a patent granted to F. and G. the sole and exclusive right to manufacture and sell the patented machines in Chicago, Illinois. F. and G. sold a machine to the defendants, residing in Faribault, Minnesota, who took it to said Faribault, and used it there. Complainants acquired, by proper conveyances, the exclusive right to use, and sell to others to use, the patented machine, within said Faribault: *Held*, that the defendant had a right to use the machine without liability to the complainants.

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In the construction of such a grant, it is proper to consider parol testimony to the effect that the right to use the machines in Chicago alone was of no value, as tending to show the intention of the grant to F. & F.

(Before DILLON and NELSON, JJ., District of Minnesota, October, 1871.)

FINAL hearing upon pleadings and proofs.

Suit brought upon letters patent for an "improvement in stave machines," granted to William Sisson, September 24, 1861.

Two defenses were set up in the answer of the defendants.

1. That Sisson was not the first and original inventor.
2. That Fuller & Ford, of the city of Chicago and state of Illinois, obtained a license from the owners of the patent to manufacture and sell in the city of Chicago, but not elsewhere, the patented machines, and a sale by them to the defendants, at Chicago, of a machine which they were using in Rice county.

The first defense was abandoned, and the defendants relied upon the license of Fuller & Ford for their authority to use the machine.

A statement of the facts, as they appear from the pleadings and testimony, is as follows:

Complainants' Title.—William Sisson, of Fulton, New York, obtained, on September 24, 1861, letters patent for a new and useful improvement in stave machines, for the term of seventeen years, giving him the exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement.

Sisson, on December 12, 1861, conveyed by deed an undivided half of the said letters patent and invention to Clinton H. Sage, of Fulton, New York, reserving certain interests and rights relating to certain places in the state of New York, and not elsewhere, to be held and enjoyed for the full residue of said term for which letters patent were granted.

A power of attorney from Sisson & Sage was executed on June 22, 1865, to G. W. Clason, of Milwaukee, to sell rights to use the patented machines in the state of Wisconsin. A sale by G. W. Clason, as attorney of Sisson & Sage, to the complainants, of the exclusive right to use, and to sell to others to use, the invention in certain counties in the state of Minnesota, including the county

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of Rice. A ratification and confirmation in writing of this sale by Sisson & Sage, dated July 7, 1868.

Defendants' Title.—Sisson & Sage, by deed of assignment, properly executed, on March 15, 1862, sold to A. A. Jones, of Fulton, New York, the exclusive right, under the patent, for certain counties in the state of Michigan; and, on August 17, 1864, A. A. Jones joins Sisson & Sage in appointing, by a proper instrument in writing, F. E. Jones, of Chicago, Illinois, attorney and agent to use, and sell, and dispose of the right to "use and sell," the patented improvement, and also the right "to sell any territory which has not heretofore been disposed of, in any place or places whatever, and also the right to use the said invention, as to said F. E. Jones shall seem expedient, giving and granting unto said attorney full power and authority to do and perform all and every act and thing requisite and necessary to be done in and about the premises," etc.

By virtue of the authority conferred by this instrument, F. E. Jones, as attorney for Sisson & Sage, granted the sole and exclusive right to Willard M. Fuller and David M. Ford to manufacture and sell the patent stave machines in Chicago, Illinois, and the machine now in use in Faribault, Rice county, Minnesota, was purchased of Fuller & Ford, in the city of Chicago.

Brisbin & Palmer, for complainants.

Gordon E. Cole, for defendants.

NELSON, J.

The whole controversy turns upon the construction and extent of the grant to Fuller & Ford, executed by Jones, as attorney of Sisson & Sage.

Before considering this instrument with reference to its language, and the rights conferred by it, we will notice an objection made by the complainants' counsel to the power of attorney to F. E. Jones, to wit: that A. A. Jones, who, it is alleged, was an assignee of a portion of the patent and invention, did not execute the grant to Fuller & Ford.

It is claimed that A. A. Jones, having signed the instrument, in connection with Sisson & Sage, creating F. E. Jones attorney of

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all the parties, for certain purposes therein expressed, F. E. Jones could not execute an instrument conferring any rights under that power with reference to the patent, without signing the name of A. A. Jones to it. In other words, Fuller & Ford's license can not properly be received in evidence, because it is not executed pursuant to the power of attorney to F. E. Jones, in that it is only the act of Sisson & Sage, not of the three persons executing the power. Upon what principle this objection is urged does not appear, except as stated in the objection. The power of attorney recites the separate interest in the patent of the parties who executed it, and conferred upon F. E. Jones the authority to act for each of them, jointly or severally.

In my opinion, then, a sufficient answer to this objection is, that A. A. Jones is, at the most, a grantee of an exclusive sectional interest, and one or two joint owners can legally grant, assign, license, or sell their own share or right in the patent. 3 Blatch. C. C. 206.

The power of attorney signed by Jones, Sisson & Sage gave F. E. Jones full power and authority to control any disposition of territorial rights under the patent, and to use the invention as to him might seem expedient. He had the authority from all the parties in interest, and inasmuch as A. A. Jones had no interest in the patent outside of the state of Michigan, he could grant nothing to Fuller & Ford, and it was not necessary for him to execute the assignment to them.

This grant to Fuller & Ford is in the following words:
“ * * * Now, this indenture witnesseth that for a valuable consideration, viz., five hundred (500) dollars, to us in hand paid, the receipt of which is hereby acknowledged, we, William Sisson and Clinton H. Sage, aforesaid, have assigned, sold, and set over, and by these presents do assign, sell, and set over unto the said Willard M. Fuller and David M. Ford, the sole and exclusive right to manufacture and sell machines of the said invention as secured to us by the said letters patent and assignment, in the city of Chicago, county of Cook, state of Illinois, and in no other place, or places, the same to be held and enjoyed by the said Willard M. Fuller and David M. Ford, for their own use and behoof, and their legal representatives, to the full end of the term for which such letters patent have been granted, as fully and en-

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tirely as the same would have been held and enjoyed by us had this assignment and sale not been made."

Now the patentee, before the execution of this grant, would, without doubt, by the unrestricted sale of a single machine in Chicago, confer by implication upon the purchaser the right to use it until worn out, wherever he pleased. 22 How. 223. The sale would have transferred the machine outside of the limits of the monopoly. The right to any exclusive privilege under the patent to the machine thus sold would have been gone, and the purchaser, by the tradition of the vendor, would obtain the absolute ownership of it, and it would become his private property.

The complainants insist that this may be true, so far as the patentee is concerned, but no such power is given Fuller & Ford by the assignment, and no legal authority to use the monopoly could be conferred upon a purchaser from them, at least to use outside the city of Chicago. The language of the grant to them, it seems to us, already gives such authority. The contract entered into by Jones, the attorney, and Fuller & Ford, operated as an assignment of an exclusive right, secured by the letters patent, to manufacture and sell, limiting them, so far as the monopoly was concerned, to the city of Chicago. The assignment was absolute, so far as the specified locality, of the exclusive right to manufacture and sell. No restriction of those rights was intended. On the contrary, Fuller & Ford and their representatives were to hold and enjoy them, "as fully and entirely as the same would have been held and enjoyed by Sisson & Sage had this assignment not been made."

It seems to us that language could not have been used which would more certainly have given the authority.

Although the subject matter of this contract between Sisson & Sage and Fuller & Ford was a patent, the rule of construction of contracts generally is not thereby altered. An owner of a patent can make an assignment in regard to it the same as he may make in regard to any other species of personal property. Says the court, in *Morse v. O'Reilly*, 6 Penn. Law Journal, 50: "While the exclusive rights of a patentee are specially guarded from intrusion, the contracts which he makes to share them with third

parties are interpreted and enforced in the same manner as other legal engagements."

Applying the usual rules of interpretation to this contract, there can be no doubt about the rights of Fuller & Ford under the patent. They not only had the right to establish a manufactory of machines in Chicago, but they had the exclusive right to sell machines to any and every one who might choose to purchase the same, the vendee taking all of the rights appertaining to their title as vendors.

If there were any doubts about this view or construction of the instrument, the condition in which we find it dispels them. The original grant to Fuller & Ford is full of interlineations and erasures, and in order to arrive at the true intent of the parties to this grant, these acts of the parties are to be considered. "Words struck out of an instrument, may be looked at to ascertain the intention of the parties to it." 3 Met. 93; 3 Walton, 689.

Parol testimony to show all of the circumstances is also admissible when the language may be susceptible of more than one meaning, such as their knowledge of the subject matter of the contract, and all other facts that would throw light upon the intention of the parties. 1 Woolworth, 212.

In the testimony of Jones and Ford we find that the right to use the machine in Chicago was of no particular value. Jones had to abandon the only machines that were in use then, because they did not pay. Fuller & Ford had already manufactured machines for Jones; and persons outside, from other states, were applying to them for machines. In the light of these circumstances, it could not have been the intention of the parties to confer only the exclusive right to manufacture machines, and to sell them for use in Chicago, which all parties agree was of no value. Now, there being no restriction in the grant upon the rights thereby conferred, it must be construed in its terms favorable to the grantee and against the grantor.

The grant carried with it by implication everything necessary and incident to its due enjoyment, and the defendants, when they purchased the machine from Fuller & Ford had the right to use it without reference to locality, except so far as F. E. Jones was restricted in authority under the power of attorney to him.

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In arriving at this conclusion, we have sustained the complainants' counsel in all of their objections, except to the admissibility of the record evidence, and overruled the defendants' counsel in his objections to testimony.

A decree will be entered dismissing the bill.

THE UNION PAPER BAG MACHINE COMPANY ET AL.

vs.

BENJAMIN S. BINNEY.

A preliminary injunction in patent cases ought not to be granted where there are new and difficult questions to be decided, or where there is anything in the position or relations of the parties which would cause it to operate unjustly.

A delay of three months in filing a bill, after the infringement was ascertained, is no ground for refusing an injunction.

The plaintiff must not strengthen his case, on the question of infringement, by rebutting affidavits. There would be great danger of surprise if he were permitted to do this under the guise of a reply.

A defendant who denies access to his machine, and who does not, at the hearing, produce his machine, nor any model or drawing of it, nor the product which it manufactures, nor rely upon the patent under which it is constructed; but who contents himself with attacking the plaintiff's model, denying that it can be a true copy of his machine, and with pointing out certain discrepancies in it, must not expect that doubtful points will be construed favorably to him.

A defendant can not relieve himself from the charge of infringement by showing that while he uses substantially the same devices, they operate less perfectly in his machine than in the plaintiff's.

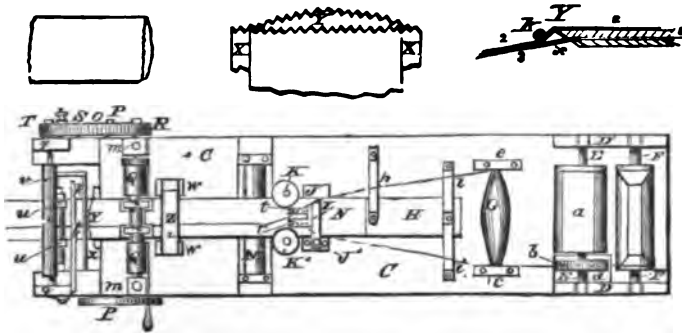
(Before LOWELL, J., District of Massachusetts, November, 1871.)

MOTION for provisional injunction.

Suit brought upon letters patent for "improvement in paper-bag machinery," granted to Horatio G. Armstrong, October 2, 1860, and assigned to complainants; and also letters patent for

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"improvement in paper-bag machines," granted to complainants as assignees of Simon E. Pettee, May 5, 1863.



The above engraving represents a plan view of the Armstrong machine.

The paper passed from the roll, *a*, under the shaping-roller, *G*, by which it was partially folded, to the bar, *N*, between the guide-blocks, *J*, *J'*, and rollers, *K*, *K'*, which completed the formation of the tube. The edges of the horizontal lap having been pasted together, the tube was cut off in suitable lengths for single bags by a striker, *k*, which struck the paper sharply against two knives with serrated edges, so that, when severed, one side projected over the other, and thus formed the top and bottom lap of the bag.

The claims of the patent were as follows :

"1. The employment, for severing the folded paper, of the upper and lower knives, with their edges, *X* and *Y*, arranged in respect to each other, substantially as set forth, in combination with the revolving striker *k*, or its equivalent.

"2. In combination with the said knives and striker, I claim the rollers, *U* and *V*, for retaining the end of the folded paper during the operation of the striker.

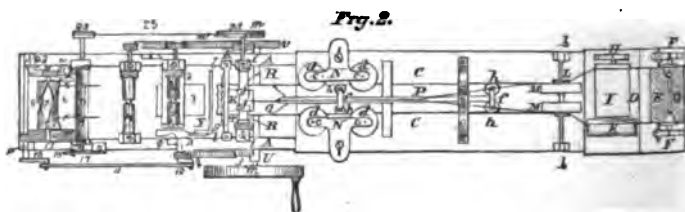
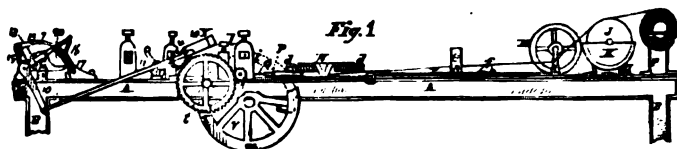
"3. The roller, *Q*, *Q'*, in combination with the blade, *N*, the upper roller having one or more collars *n*, *n*, so arranged in respect to openings in the blade that the action of the rollers on the folded paper can not interfere with the said blade, as set forth.

"4. The horizontal rollers, *K*, *K'*, and the guide-blocks, *J*, *J'*, arranged in respect to each other and to the blade, *N*, substantially as and for the purpose set forth.

"5. The plate, *L*, with its projections *l* and *l'*, or their equivalents, arranged and operating as set forth, for the purpose specified.

"6. Causing one edge of the paper to traverse in contact with a ratchet or notched wheel, *b*, arranged to revolve in a trough containing the paste, as set forth, for the purposes specified."

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The invention set forth in the Pettee patent is illustrated in the foregoing engraving, and, in the specification, was described as an improvement on the machine of Armstrong, and consisted: 1. In the lateral adjustment of the plate to which the spindle, which carries the roll of paper, is journaled. 2. In the lateral adjustment of the plate which carries the pasting device. 3. In folding the continuous sheet of paper by sharp-edged pulleys, which crease the paper, and others that fold it down, dispensing with the "former." 4. In making the pulleys adjustable laterally as to each other, and to the paper, to determine the creases for different sized bags. 5. In the rollers which guide the paper to the severing device. 6. In the construction and adjustability of the striker to and from its center of rotation, and in regard to the rollers. 7. In the pasting blade, which transfers the paste from the roller to the lap of the bag, the blade having a projection, which determines its action on the paste-roller in respect of the amount of paste transferred from the latter. 8. In the roller with angular projecting plates, acting in combination with the paste-roller, to determine the width of the paste on the latter.

The claims were as follows:

"1. Hanging the spindle, G, which carries the roll of paper to a plate, E, so secured to the frame as to be readily adjusted laterally thereon, for the purpose specified.

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"2. So connecting the plate, D, which carries the roller, I, and the pasting device to the frame, that the whole may be adjusted laterally on the said frame for the purpose specified.

"3. Folding the continuous sheet by means of a pulley or pulleys, M, M, or their equivalents, in combination with the horizontal pulleys, d, d, or their equivalents, to the same, the sharp edges of the pulleys forming the crease at the proper place in the paper, and the pulleys, d, d, or their equivalents, turning down the fold determined by the creasing pulleys, thereby dispensing with the objectionable "former" used in the machines for making paper-bags.

"4. So securing the creasing pulleys, M, M, to the shaft, L, that they can be adjusted thereon, in respect to each other and to the paper, for the purpose described.

"5. The roller, A, A, secured to the bar, P, and so arranged as to prevent a lateral sagging of the paper without disturbing the creases made by the pulleys, M, M.

"6. So constructing the revolving striker that the striking bar can be moved to and from the center of rotation and secured after adjustment, for the purpose specified.

"7. The revolving striker, when arranged in respect to the rollers, v, v, and the rollers, w and w', as and for the purpose herein set forth.

"8. Imparting to the pasting blade, 15, by the devices herein described, or their equivalents, the motion described to and from the pasting roller, as well as the motion described to and from the folding rollers, for the purpose herein set forth.

"9. The beveled portion of the plate, 15, so formed and arranged as to conform or nearly conform to the circumference of the roller, 6, and so as to effectually transfer the paste to and spread it over the fold at the bottom of the bag, as described.

"10. The roller, 7, with its angular projecting plate, 22, when combined and operating in conjunction with the paste-roller, 6, substantially as and for the purpose herein set forth."

George Harding, for complainants.

T. W. Clarke, for defendant.

LOWELL, J.

A preliminary injunction, in patent cases, ought not to be granted where there are new and difficult questions to be decided, or where there is anything in the position or relations of the parties which would cause it to operate unjustly. The defendant insists that there are considerations of the latter kind arising out of the plaintiffs' delay to prosecute. He says the infringement was known to them before January, 1871, and this bill was filed in September. If it were true that there had been any license, express or implied, or if the defendant had been misled by the conduct of the plaintiffs, or if there had been even such hesitation as to show a doubt of their own title on the part of the patentees,

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a court of equity might refuse its summary interposition. But in this case, the plaintiffs' title to the two patents relied on in this motion is of long continuance, and was well known to the defendant. The misleading, if any, was on the other side, for the defendant wrote to the plaintiffs' solicitor, in March, 1871, that his machines were new and valuable; that they did not infringe on any patent, but were themselves in the course of being patented, and that he should be willing to sell them to the plaintiffs for a certain price. This negotiation was never completed, and on the 18th of July, the plaintiffs' agent went to the defendant's factory and saw one of his machines. There is no evidence that before that day its character was known to the plaintiffs. A delay of three months in filing the bill, the defendant not having been induced to change his position, or, so far as appears, having had any communication with the plaintiffs in the interval, is no ground for refusing the injunction.

Upon this hearing, the title of the plaintiffs has been admitted, and the validity of the Armstrong and Pettee patents has not been denied. The only points presented by the affidavits relate to the alleged infringement of the first, second, third, and sixth claims of the Armstrong patent, and of the first, eighth, and ninth claims of the Pettee patent. To sustain the issue on their part, the plaintiffs introduced a model, which Mr. Howlett, president of the plaintiff company, who saw the defendant's machine at work in July, as above mentioned, swears to as a true representation of it, and some bags, which he says he procured when he was there. It is not denied that if the machine is like the model, it infringes several of the claims; but the defendant himself, his foreman, and Mr. Edson, an expert, made affidavit to certain differences between the two. The plaintiffs, in reply, introduced a patent issued to the defendant since the affidavits in chief were filed, with evidence tending to show that it is for the same machine which he is using; and this patent certainly does describe a machine resembling the model in the disputed particulars. The defendant objects to the introduction of these papers at this time, as not being in reply to his case. This objection is sound. There would be great danger of surprise if the plaintiffs could strengthen their own case on the question of infringement

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under the guise of a reply. The evidence was not accessible when the plaintiffs' case was made up, but that is no reason for permitting it to be brought in irregularly, though it might have been cause for varying the order of proof on suitable terms, giving the defendant an opportunity to answer the new matter. It is admissible in reply to the defendant's own affidavit, as tending to contradict his description of the machine by showing that he has made a different statement to the Patent Office. / Admitted for that purpose, it has a tendency to neutralize Mr. Binney's evidence, and even to throw some doubt on the good faith of his defense, which in other respects is not satisfactory. He does not produce his machine, nor any model or drawing of it; does not rely on his own patent; does not bring forward the bags with which he supplies the trade; but contents himself with attaching the plaintiffs' model, denying that it can be a true copy of his machine, with pointing out certain discrepancies in it, and with showing certain bags that were made experimentally at his factory, and show marks of the differences between the two machines. There is some evidence, too, that his factory was not to be visited by strangers. The plaintiff must succeed, no doubt, by the strength of his own evidence; but in weighing it and passing upon its truth and correctness, the mode in which it is met by the defendant is a proper matter for consideration, and I must say that the defendant's course in this case does not lead me to construe the doubtful points favorably to him.

The two main points of difference relied on, are the parts of the machine coming under the first claim of Armstrong and of the eighth of Pettee. The first is for upper and lower knives, with their serrated edges, so arranged, in combination with the revolving striker or its equivalent, that the paper is forced by the striker against these edges, and cut in a particular shape. The defendant has the arrangement of knives and a striker, which reciprocates instead of revolving, and he says that it does not wholly sever the paper, but only brings it just far enough against the edges of the knives to cause perforations in the paper, which is then torn apart in the line of the perforations by the tension of the next pair of rollers. This statement, I doubt. It is opposed to the direct evidence of the plaintiffs' witness, and to the appear-

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ance of the bags produced by him, and is highly improbable. But, granting it to be true, it amounts only to this—that the defendant's striker is so imperfectly organized in the combination as to make a further process necessary. The striker performs the same office, as far as it goes, and in the same way; it brings the paper against the edges of the knives, and establishes a line of cutting, though it does not complete the operation. It is an imperfect infringement, because the machine is imperfect; but it is still an infringement. So of the eighth claim of Pettee. Before his time, bags came out of the machine unfinished at the bottom. His improvement, in this respect, consists in carrying the bag over a pair of horizontal rollers, and just as the lower end of the bag passes over the space between these rollers, it is struck by a plate or knife, which creases it, and forces the crease between the rollers. This plate or knife moves to and from a roller covered with paste, and deposits paste in the crease which it makes, so that, when the rollers have pressed it, the bottom is complete. This eighth claim is: "Imparting to the pasting blade, 15, by the devices herein described, or their equivalents, the motion described to and from the pasting roller, as well as to and from the folding rollers, for the purpose herein set forth." The defendant has a blade or knife, or plate, which moves to and from a pasting roller, and to and from a pair of horizontal folding rollers, by which he creases and pastes the bottom of the bag. He says that this plate strikes the bag just before, instead of at the moment it reaches the intersection of the rollers, and spatters the paste upon it, instead of wiping itself on it; but I can not see that this affects the mode of operation, excepting that it may do the work less well. The defendant's expert says that Pettee, in his eighth claim, describes his invention as imparting to the pasting blade a described motion by described means or their equivalents, and he then points out differences in the motion and in the means. He does not say whether these differences are formal or not; whether the defendant's means are well-known substitutes for those of the plaintiffs. He evidently does not consider the moving of the pasting blade to and from the pasting roller, so as to meet the end of the bag at the proper time, to crease and paste it, as of the essence of the claim; but the precise form of motion, and the precise means of

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imparting it, are what he regards. Considering what Pettee, upon the evidence, might be expected to mean, and what he fairly may mean, this is too narrow a view of that claim, and his idea can not be borrowed by making some slight alteration of the details of the motion, especially when the variation is not shown to have required invention.

It is noticeable that in neither of these parts of the machine, as represented in the affidavits, is there any pretense of an improvement on Armstrong and Pettee, nor of any reversion to an earlier type of paper-bag machines, but a device admitted to resemble his very much in construction, but said to be incapable of readily doing the work at all times; for, in respect to both of them, they say there is great danger of injuring the bags unless everything goes at its best. This singular state of things gives some weight to the plaintiffs' theory that the machine was partly disorganized when these experiments were made upon it; that the striker and paster did not show their fair and usual operation, but were crippled for the time being. Besides these claims, there are two others of great importance, concerning which there seems to be scarcely a doubt raised by the testimony. Armstrong's second claim is for rollers which hold the bag during the operation of the striker. The defendant says his rollers operate to tear the paper by tension; but this only shows that they have a double use. It can not be denied that they likewise hold the paper while it is subjected to the operation of the striker, which is the claim of the patent. Then there is Armstrong's third claim for rollers, in combination with the blade over which the paper is formed. The combination consists in cutting a piece out of the blade and enlarging the corresponding part of the upper roller by collars, so that the rollers meet upon the paper and carry it forward without interfering with the blade. In the defendant's machines the blade is cut away on each side, instead of in the middle, and there are corresponding enlargements on the under roller, instead of the upper one, so that the same effect is produced, and in the same way. The defendant's expert says: "I do not find in the Binney machine any collars on either the upper or lower roll, nor any openings in the blade, but I do find that the former (blade) is made with a neck fitting in between two rolls and having a

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play vertically, which vertical play is impossible in the Armstrong machine, and serves an important purpose in the cutting-off process of Binney." The vertical play has nothing to do with the combination of Armstrong's third claim, and a neck fitted in between two rolls is plainly the same as a cap fitted between two rolls; and the expert does not venture to say that there is any mechanical difference. How he can even say that the enlarged parts of the lower roll are not collars, I do not quite understand, though perhaps there is something in the mode of making them which permits the use of a different name. The thing is the same, with scarcely a colorable difference. I find that at least four of the most important claims of the two patents are infringed—two of the four without any question—and this is enough for the purposes of this motion.

No reason being shown for doubting the validity of these two patents, and nothing in the acts or situation of the parties to render the injunction unjust in its application, I must order it to issue.

JOHN M. KNOX*vs.*

TERANCE J. MURTHA AND RICHARD P. CHARLES. IN
EQUITY.

The third claim of the reissued letters patent for an "improved smut-mill and separator," granted to Daniel Shaw, January 11, 1870, namely, "In combination with a smutter or scourer, and a suction-fan, both arranged on and driven by the same shaft, and an air-trunk for directing the course of the blast, a regulator, for changing the force or volume of the current of air, without changing the speed or motion of the smutting or scouring cylinder, substantially as described," is limited to a combination in which a tight smutter or scourer is employed,

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and does not cover a combination in which an open scourer is employed.

The general words of the claim are to be construed as limited by any particular description found in the specification.

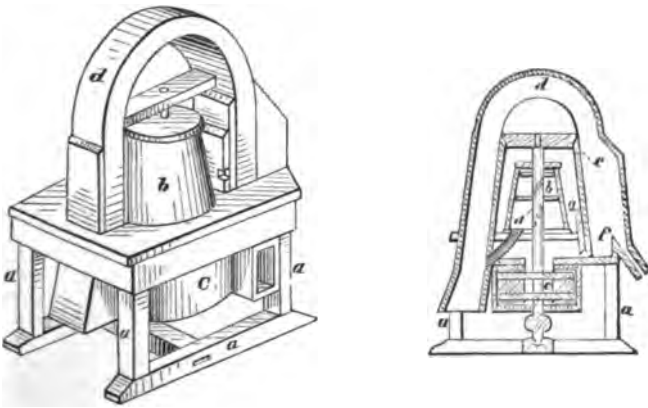
Reasons stated why such third claim is, probably, invalid.

The fifth claim of the patent, namely, "The arranging of the smutter or scourer and the suction separating fan within or between the legs of the blast or air-trunk, in which the entire separation is made, and which passes over or around them, for the purpose of economizing space, and cheapening the construction of the machine, substantially as described," is void, as covering no patentable invention.

(Before BENEDICT, J., Eastern District of New York, November, 1871.)

FINAL hearing upon pleadings and proofs.

Suit brought upon letters patent for an "improved smut-mill and separator," granted to Daniel Shaw, April 6, 1852; reissued November 3, 1863; extended for seven years from April 6, 1866; again reissued January 11, 1870, as reissue No. 3794, and assigned to complainant.



The above engraving illustrates the Shaw machine.

The specification states :

"Figure 1 represents, in perspective, an external view of the combined smut-mill and grain-separator; and

"Figure 2 represents a vertical section through the same.

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"Previous to my invention, the smutting and scouring of grain were done in one machine, and the separating of the grain into qualities, according to the specific gravity, and further separating of grain from the screenings or lighter impurities, and from the dust, chaff, etc., were done in another machine, thus requiring two machines, two handlings, and two operations.

"I lay no claim to any such separated machines or operations. Nor do I claim any machine where a separation is attempted through the smutting-cylinder, or wherein less than three distinct and separate divisions of the material, according to their values and specific gravities, are made, and separately deposited in separate places.

"The object and purpose of my invention are to so devise, as, that by one machine, one handling of the grain, and one operation, the grain shall be divested of the smut, or scoured, separated into qualities of heavy and lighter grain, and separated from the dust, chaff, and light impurities, by once passing through such machine; and, secondly, my object and purpose are to so construct such a machine as that it would be simple in its construction, not liable to get out of order, efficient in its operation, and, from its cheapness of construction, within the reach of any one."

* * * * *

"a, a, etc., represent a main frame for containing and supporting the entire machine.

"Upon this main frame is supported a vertical shaft, which may be driven by a belt from any first moving-power, and upon the lower end of this shaft is arranged a fan, c, and upon the upper end thereof a smutting or scouring-cylinder, b, both the fan and the smutting-cylinder being arranged within suitable cases, that have proper inlet and exit-openings, as will be explained.

"Over the smutter and fan-cases passes an inverted bow or U-shaped wind-trunk, d, which is common to the smutter by the pipe or passage e, and to the fan by or through a passage underneath the smutter-case, that leads into the eye of the fan.

"A sliding regulator, g, commands the passage leading from the wind-trunk to the eye of the fan, so that, without interfering with the speed of the smutter-cylinder or the fan, the force of the blast or current of air through the wind-trunk to the fan may be regulated.

"Within the wind-trunk is arranged a screen, e, where a separation of the lighter grains or impurities may be made from the smut, dirt, chaff, etc., said lighter grains dropping from the edge of the screen into the opening at f, and thence passing out of the machine, while the smut, dirt, and chaff are drawn into and through the fan, and driven out through the trunk (fig. 1) leading from the fan-case out of the building, if necessary.

"The heavy wheat, or that which is fully cleaned and divested of all its impurities, when, or the instant after, it is passed from the smutter through the passage into the wind-trunk, falls out of the open end of said trunk, while all the remaining particles of light grain, chaff, short straw, smut, dirt, etc., are taken by the ascending current of air, and carried up and over to where the succeeding separation takes place, as above mentioned.

"The grain, with all the impurities mixed with it, as it comes from the thrasher, or in a partially-screened state, is thrown into the smutter, through an opening in its top, where the smut-balls are broken or loosened, and the grain scoured by attrition, and by the beater-arms throwing it against the enclosing-case or shell. No separation takes place in the smutter, as there is no operative-blast within the outer case. The whole contents of the smutter, including the dirt shoveled in with the grain, and everything loosened from the grain, pass from the smutter or scourer into the wind-trunk, and the moment they enter the wind-trunk, then the sepa-

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rating begins; the heavy wheat, by its specific gravity, dropping down and out of the wind-trunk, while all the lighter particles are carried up and over to the final separation.

"There are three different places of deposit for the three different things separated from each other, viz., the heavy, plump, cleaned wheat, at the end of the wind-trunk, where the air enters; the lighter grains and particles are carried out through *f*; and the dirt, smut, and chaff are drawn through the fan, and out through the trunk or passage leading therefrom, and out of the building, if necessary.

"Having thus fully described my invention, and shown how it is operated,

"What I claim therein as new, and desire to secure by letters patent, is:

"1. The combination of a smutter or scourer, with an independent suction separating fan-blast or current of air, so that the separation of the dust, chaff, and other impurities from the grain, shall take place after the grain has been scoured, and after leaving the scouring-cylinder, and the dust separated from the lighter impurities, and deposited apart from the chaff and other impurities, and independent of any action of the smutter, substantially as described.

"2. In combination with a smutter or scourer and a separating suction-blast, the separating and depositing in separate places of, first, the heavy or very clean wheat; second, the lighter grains or screenings, freed from dust; and third, the smut, dust, and chaff, substantially as described.

"3. In combination with a smutter or scourer and a suction-fan, both arranged on and driven by the same shaft, and an air-trunk for directing the course of the blast, a regulator for changing the force or volume of the current of air, without changing the speed or motion of the smutting or scouring-cylinder, substantially as described.

"4. The combination of a smutter or scourer and a suction separating-fan, with a wind or air-trunk, common to both the smutter and the fan-blast, and so that the contents of the smutter may pass into the column of air that rushes through the trunk to the fan, and the entire separation take place therein by the action of the fan-blast alone, after leaving the scourer, substantially as described.

"5. The arranging of the smutter or scourer and the suction separating-fan within or between the legs of the blast or air-trunk in which the entire separation is made, and which passes over or around them, for the purpose of economizing space and cheapening the construction of the machine, substantially as described."

Keller & Blake, for complainant.

Sprague & Hyatt, for defendants.

BENEDICT, J.

This is a suit in equity, brought by John M. Knox, the assignee of a patent for an improved smut-mill and separator, reissued to one Daniel Shaw, January 11, 1870, to obtain a decree for an injunction and account against Terance J. Murtha and Richard P. Charles, because of an alleged infringement of said patent in the use of a grain scourer and separator manufactured by Howes,

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Babcock & Co., of Silver Creek, in this state. The defendants deny the infringement, and also deny the validity of the Shaw patent as reissued.

I shall first consider the question of infringement. There is no dispute as to the description of machine which the defendants use; and, whether they infringe or not, depends upon the construction given to the Shaw patent.

This patent was originally issued to Daniel Shaw, April 6, 1852, and reissued November 3, 1863. On April 6, 1866, an extension of the patent was granted for seven years, and the patent was again reissued to Shaw, January 11, 1870. It is designated in this case as the Shaw reissue No. 3794. It contains five claims; but, since the commencement of this suit, a disclaimer has been made of the first, second, and fourth claims, leaving only the third and fifth claims to be considered here.

The third claim is as follows: "In combination with a smutter or scourer and a suction-fan, both arranged on and driven by the the samē shaft, and an air-trunk for directing the course of the blast, a regulator for changing the force or volume of the current of air, without changing the speed or motion of the smutting or scouring cylinder, substantially as described." This is a claim for a combination only; and one of the questions raised is, whether the combination secured by it is limited to the use of a tight smutter or scourer, or whether it covers the use of any form of smutter or scourer in combination with the other elements described. If, as the defendants insist, it be construed so as to confine the patent to a combination in which one element is a tight smutter or scourer, this action must fail; for the combination employed in the machine used by the defendants contains an open scourer, and does not contain a tight smutter or scourer. Much importance has been attached to this question by the counsel, and I have considered it with care. My conclusion is that the construction contended for by the defendants is the true construction to be placed upon the third claim.

An examination of the patent will, as I think, render apparent the correctness of this conclusion. In the claim itself, which designates the combination sought to be secured, no description is given of the scourer, which is stated to be an element of the combination sought to be secured. The words are, "in combination with

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a smutter or scourer ;" and these words, it is said, are sufficient to include any form of scourer then known. But effect must be given to the words, "substantially as described," which are used in the claim, and their effect is to refer to the specification for the description of the elements of the combination, which is wanting in the claim. The general words of the claim in respect to the scourer are therefore to be construed as limited by any particular description found in the specification. The specification first recites that, "previous to the invention of Shaw, smutting and scouring of grain were done in one machine ; and the separating of the grain into qualities, according to its specific gravity, and further separating of grain from the scourings or lighter impurities, and from the dust and chaff, were done in another machine, thus requiring two machines, two handlings, and two operations." The specification then declares : "I lay no claim to any such separated machines or operations, nor do I claim any machine where a separation is attempted through the smutting cylinder, or wherein less than three distinct and separate divisions of the material, according to their values and specific gravities, are made, and separately deposited in separate places." The specification further states that "the invention consists in the combination of a smutter or scourer with a suction separating fan-blast or current of air, so that a separation of the dust, chaff, and other impurities from the grain shall take place after the grain has been scoured, and after leaving the scouring cylinder ;" and, again, that "the invention further consists of a combination of a smutter or scourer, and a suction separating fan, with a wind or air-trunk common to both the smutter and the fan-blast, and so that the contents of the smutter may pass into the column of air that rushes through the trunk to the fan, and be separated therein ;" and, again, that "the grain, with all the impurities mixed with it, as it comes from the thresher, or in a partially screened state, is thrown into the smutter, through an opening at its top, where the smut balls are broken or loosed, and the grain scoured by attrition and by the beater arms throwing it against the inclosing case or shell. No separation takes place in the smutter, as there is no operative blast within the outer case. The whole contents of the smutter, including the dirt shoveled in with the grain, and everything loosened from the grain, pass from the smutter or scourer into the

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wind-trunk, and, from the moment they enter the wind-trunk, then the separation begins, the heavy wheat, by its specific gravity, dropping down, and out of the wind-trunk, while all the lighter particles are carried up and over to the final separation." This description of the invention can not be misunderstood, when taken in connection with the state of the art at the time. At the time of the invention of Shaw, two forms of machines called smutters or scourers were well known. The form called here a tight scourer has a tight cylinder or inclosing case, within which the grain, as it comes from the thresher, is beaten about by arms and scoured, and then the mass discharged, to be thereafter separated by a separator. The other form, here called an open scourer, has, instead of a tight cylinder, an inclosing case, with numerous perforations in it, through which dust and dirt can be driven by the blast caused by the beaters, or by an operative blast introduced from a fan. The difference between these two machines is radical. If grain, as it comes from the thresher, be submitted to the action of a tight scourer, while useless portions are loosed from the kernels of grain and the kernels scoured, they are, by the same operation, smeared with any smut or adhesive dirt set free by the action of the beaters, and this to an extent, as the evidence shows, which renders the machine comparatively valueless where smutty wheat is present. But, if an open scourer, with an operative blast, be used, the smut and a large portion of the dirt and dust, as fast as loosed, are driven through the perforations in the inclosing case, and thus an important separation is effected simultaneously with the loosening of the particles and by the same operation. The one form of machine loosens and separates, the other loosens and combines. Of these two forms, only the tight scourer will answer to construct the machine or combination described in the Shaw patent; and by the use of that form of scourer alone can the result be obtained which the patent declares to be the result sought by the invention, namely, the accomplishment of the entire separation in the air-trunk.

The specification of the Shaw patent, although it does not, in so many words, say that the smutter or scourer used is a tight scourer, does state that no claim is made to a machine wherein a separation is attempted through the smutting cylinder. This is

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equivalent to describing the smutter or scourer as tight, and without an operative blast; and, accordingly, the specification must be understood as excluding from the combination an open scourer with an operative blast.

There was a reason for thus limiting the claim of the patent. At that time, there were in use three combined separating machines, which made three separations, or, more properly, delivered their contents in three divisions, and used open scourers, wherein a part of the separation was accomplished, namely, Torrey's, Ashley's, and Johnson's; and there is no evidence of the prior existence of any machine making three separations which used a tight scourer. Shaw, therefore, would naturally be expected to limit his claim to a combination in which a tight scourer formed one of the elements, as he has done by the reissue in question.

I have not overlooked the suggestion that the use of an open scourer, instead of a tight scourer, is but adapting an improvement to the combination claimed by Shaw. The answer is, that an open scourer is not an improved tight scourer, but a different device, producing a different result, as is shown by the fact that the defendant's machine will clean and separate smutty wheat, which the Shaw machine will not do. Shaw's patent is for a combination of elements acknowledged to be old, which are arranged in a certain way, in order to accomplish a stated result, namely, the separation of the threshed grain into three divisions in the air-trunk alone. One of these elements he has, by his claim, taken in connection with his specification, described as a tight scourer. The defendants do not infringe upon his patent, because their machine does not contain any tight scourer, or its equivalent, but does contain another element, having a different function, and producing, in combination, a different result. Even if the result attained by the defendants' machine be considered as similar to that sought to be accomplished by the Shaw machine, because, in addition to the separation effected by the open scourer, it also effects three separations of the remainder in the air-trunk, still, the defendants can not be held to be infringers on the Shaw patent, for the combination which they use is not Shaw's combination. It discards one of Shaw's elements, as he has described them, and includes a device not found in Shaw's combination, which performs, in the defendants' machine, a function not per-

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formed by any device in Shaw's machine, whereby the material to be separated in the air-trunk is changed in character, being free from smut, and having a different proportion of dust; and, in such added device, as the evidence shows, nearly three-quarters of the separation takes place. I am, therefore, of the opinion that the plaintiff has failed to prove the infringement charged.

There is another aspect of this case, which I will also notice. The defendants have put in evidence a grain-separator, well known, and in use prior to the date of the Shaw invention, which had been invented by one Sanders, and is known as Sanders' separator. This machine consists of an air-trunk, through which an air current is created by a suction-fan, and the same regulated by a regulator. In this trunk the current first ascends through an ascending leg. At the top of the ascending leg, the air-trunk turns at right angles, and gives to the air current a horizontal direction. This horizontal portion of the air-trunk is enlarged, and its lower surface given the form of a capacious hopper, with a slide-valve at the bottom. After passing the hopper, the air-trunk turns down again and into the eye of the fan. In this machine, material coming from a scourer is spouted into the ascending leg, where the heavy grain is separated from the rest of the mass by gravity, precisely as in the Shaw machine. This separation effected, the remainder of the mass passes into the horizontal part of the air-trunk, where the current is weakened by the enlargement of the trunk, and, by means of the depression of the bottom of the air-trunk to form the deep hopper, the force of gravity is again rendered effective. Here, therefore, while the dirt, dust, and chaff are carried on by the air current to the eye of the fan, the screenings are carried, by their gravity, out of the air current to the bottom of the hopper, and thence removed by the slide-valve. The dust and dirt, thus separated from the screenings, pass out of the machine through the fan. The Shaw machine, according to the testimony of Mr. Renwick, an expert called by the plaintiff, differs from the Sanders machine only in that it contains a separator, combined with a scourer, driven by the same shaft. If this opinion be correct, the Shaw patent must fail, so far as the third claim is concerned, for want of novelty, because it has been proved that the combination of a scourer and a separator, driven upon the same shaft, was in use before the Shaw

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invention. It would also be open to the objection that no invention was required to attach a scourer to the shaft of Sanders' separator. But this conclusion of the expert is not agreed to by the plaintiff, who insists that another and a material difference exists between Sanders' separator and the Shaw machine. At first it was said that in the Sanders machine the screenings fall into the hopper simply by reason of the enlargement of the air-trunk, which reduces the speed of the current, and then nothing but the dust passes with the air current in the descending leg to the eye of the fan, while, in the Shaw machine, the screenings, as well as the dust, pass into the descending leg, and there, while the screenings are descending by the force of gravity, as well as by the force of the current of air, the current of air is forced to take a lateral direction away from the force of gravity, and is aided by an ancillary upward current of air, admitted through the spout, F, the place of exit for the screenings, which operates against the descending force of the screenings, and thus the separation is completed. But it is manifestly no substantial change in the air-trunk to place the enlargement on the descending leg, instead of on the horizontal portion, as in Sanders' separator. In both cases the air current is weakened by an enlargement of the trunk, and in both cases the separation is effected by the air current being forced to take a lateral direction, away from the force of gravity. If there be any difference, then, between the two machines sufficient to support the patent, it must arise solely from the existence in the Shaw machine of an ancillary current, admitted through the spout, F. This was finally conceded on the argument, and the opening at the spout, F, for the incoming of the opposite current of air, was pointed out as constituting the only substantial difference between the two air-trunks. But no such feature as an ancillary current admitted into the air-trunk at the spout, F, is alluded to in the Shaw patent. It does not appear either in the original patent or in either of the reissues, and it seems impossible to say that these descriptions convey the idea that an ancillary upward current of air, admitted through the spout, F, is an element in the machine. In the third claim of the reissue, the air-trunk is described simply as "an air-trunk for directing the course of the blast." But this description, to render it effective for any purpose, must be held to be qualified by the

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description given in the specification ; and there, while the spout, F, is mentioned, it is only spoken of as used for receiving and carrying out the scouring from the air-trunk. It is true that in the drawings, the spout, F, is open, and it is spoken of in the description as an opening, but no one could gather, from either the description or the drawings, that the machine was to be so constructed, and the size of the opening, at the spout, F, so proportioned that while the scourings should there pass out, an ancillary current of air was, at the same time, to be there admitted, to perform a characteristic part in effecting the separation within the air-trunk. No witness is called to show that such an idea would be conveyed by the specification and drawings, and the contrary seems proved by the fact that no such idea was conveyed to Mr. Renwick, the plaintiff's expert, who has made this patent a study. My conclusion upon this branch of the case, therefore, is that, if the only difference between Shaw's machine and Sanders' separator is that stated by the plaintiff's expert, the Shaw patent must fail, so far as the third claim is concerned, for want of novelty, and also of invention ; and that, if there exists the further difference claimed by the plaintiff, that an ancillary current of air is admitted to the air-trunk through the spout, F—a position not easy to maintain upon the evidence—then the Shaw patent must fail, so far as the third claim is concerned, because it does not contain a sufficient description of the invention sought to be secured.

Entertaining these views in respect to the third claim of the Shaw patent, it is unnecessary for me to express an opinion upon the other grounds of objection to this claim taken by the defendants, and I pass to a consideration of the fifth claim of the Shaw reissue, upon which also the plaintiff bases a right to maintain this action. The fifth claim is as follows : "The arranging of the smutter or scourer and the suction separating fan, within or between the legs of the blast or air-trunk, in which the entire separation is made, and which passes over or around them for the purpose of economizing space and cheapening the construction of the machine, substantially as described." The idea here expressed, which the patentee has embodied in his machine, and claims to secure as his own, is that, in a machine having a scourer and fan connected by an air-trunk, as described, economy of space

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and cheapness of construction would be gained by placing the smutter or scourer between the legs of the air-trunk, instead of elsewhere. Certainly, no invention was required to reach such a result. It would rather require invention to find any reasonably convenient place to locate a fan and scourer so connected, other than the one chosen by the patentee. No advantage or change in the operation of the machine is claimed for the arrangement, but simply economy of space and cheapness in the construction. That this would be gained by such an arrangement as the patentee claims could not fail to occur to the mind of any intelligent person seeking to combine a scourer and fan with an air-trunk, as described. A similar arrangement of materials, for the same reason, is to be seen everywhere. I am, therefore, of the opinion that the fifth claim of the Shaw reissue is invalid, because of insufficiency of invention.

The decree must accordingly be that the bill be dismissed, with costs.

EBEN JORDAN

vs.

DAVID WALLACE ET AL. IN EQUITY.

Infringement being alleged in the bill, the defendants should answer it distinctly and unequivocally.

An answer which only denies that the defendants used the patented invention, "with a full knowledge of the premises mentioned in said bill of complaint, and in violation of the complainant's exclusive right secured by the patent of 1864," is an implied admission of its actual use, and the complainant is not required to make any further proof of infringement.

(Before McKENNAN, J., Eastern District of Pennsylvania, November, 1871.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for "improvement in machinery for the manufacture of wool and other fibrous material," granted to John Goulding, December 15, 1826, and, by virtue of a special

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act of Congress, extended for seven years from August 30, 1862. The nature of the invention is more particularly referred to in the report of the case of *Jordan v. Dobson*, 4 Fisher, 232.

H. T. Fenton and *Furman Sheppard*, for complainant.

N. H. Sharpless, *R. P. White*, and *G. H. Earle*, for defendants.

McKENNAN, J.

The original answers in these cases present the same defenses which are set up in *Jordan v. Dobson*, 7 Phila. 533; 4 Fisher, 232.

That case was exhaustively argued before a full bench of this court, and all the questions involved in it were carefully considered and decided, and an elaborate opinion was delivered by Mr. Justice Strong. The conclusions therein announced are now reaffirmed, and are, therefore, to be taken as decisive of the same questions presented in these cases.

Amendments of the respondents' answers have since been filed, which contain, as their only new feature, an averment of the incapacity of the patentee, by reason of mental unsoundness, to comprehend the specifications attached to the reissues of his patent in 1836 and 1864. As this averment is unsupported by any proof, it is unnecessary to consider it. A decree in favor of the complainant is now opposed, upon the ground that he has not furnished satisfactory proof of infringement by the respondents. Infringement is alleged in the bill, and the respondents are therefore bound to answer it distinctly and unequivocally. In their original answers, their response to this allegation is qualified and equivocal: They do not deny the use of the invention described in the patent, but only that it was used "with a full knowledge of the premises mentioned in said bill of complaint, and in violation of the complainant's exclusive rights secured by the patent of 1864." This clearly implies an admission of its actual use. And this implication is strengthened by the express admission in the amended answers that the cards, jacks, and mules stated, in their answers, to be in use by the respondents, were made and constructed, in some respects, substantially in imitation of the im-

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provement claimed by the patentee. Thus, not only failing to deny their alleged use of the complainant's invention, which he has a right to treat as a confession of its use, but, by their mode of answering, impliedly admitting it, the complainant is not required to make any further proof of infringement. The complainant is, therefore, entitled to a decree, but as his patent expired August 30, 1869, it can only be for an account, which is accordingly directed in each case.

GEORGE THOMPSON AND THE PENNSYLVANIA SALT
COMPANY.

vs.

SAMUEL MENDELSON.

A suit in equity for the infringement of letters patent may be brought in the circuit court for any district in which the defendant may be found, although the infringement has been committed in another district, in which the defendant resides.

The process of the court is primarily directed against the person of the wrong-doer, and it is no sufficient reason against the court to award it, that it may not furnish to the plaintiff effectual relief, or that its operation may be evaded by the defendant.

(Before McKENNA, J., Eastern District of Pennsylvania, November, 1871.)

MOTION for provisional injunction.

Suit brought upon letters patent for "improvement in devices for putting up caustic alkalies," granted to George Thompson, and more particularly referred to in the reports of the cases of *Pennsylvania Salt Co. v. Gugenheim*, 3 Fisher, 423, and *Pennsylvania Salt Co. v. Thomas*, 5 Fisher, 148. Since the decision of the latter case, the patent had been extended for seven years, from October 21, 1870.

The defendant resided in the city of New Orleans, and was engaged in the business of putting up and selling caustic alkali in

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that place. He was served with process while passing through the city of Philadelphia.

George Harding, for complainant.

George H. Earle, *T. M. Marshall*, and *T. C. Lazear*, for defendant.

McKENNAN, J.

This is a motion for a preliminary injunction. The patent set up in the bill has been twice contested in suits brought in the circuit court for this district, upon substantially the same grounds stated in the answer of the respondent here, and it was sustained. For all the purposes of the present motion then, the plaintiff's title must be taken as established; and, as infringement is not denied, the plaintiffs would seem to be entitled to a preliminary injunction.

But the answer alleges that the respondent is resident in the State of Louisiana, and that the infringement of the plaintiffs' patent has been committed there, and not in the Eastern District of Pennsylvania. It is therefore urged that this court has no power to grant the injunction.

The patent laws confer exclusive jurisdiction upon the circuit courts of all suits, in law or equity, for invasion of the rights of inventors under them, and the judiciary act expressly authorizes such suits to be brought and process to be served upon defendants in any district in which they may be found. The conclusion is inevitable that where these conditions are complied with, the court has power to afford such measure of protection to the plaintiffs' rights as it is competent to afford in any case, of the subject matter of which it has jurisdiction, and in which the parties are before it by the due service of process. Certainly by no act of Congress is this power restricted by the fact of the defendant's residence in another district, or that the wrong imputed to him was not committed in the district in which the suit is brought. The process of the court is primarily directed against the person of the wrong-doer, and it is no sufficient reason against the power of the court to award it, that it may not furnish to the plaintiffs

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effectual relief, or that its operation may be evaded by the defendant.

The bill was filed in the Circuit Court for the Eastern District of Pennsylvania; the defendant, Mendelsohn, was found there, and was there duly served with the subpoena. He is, therefore, subject to all such decrees as the court may adjudge to be necessary for the due administration of equity. /

The preliminary injunction against him is awarded.

JOHN S. M'MILLIN, HUGH CAMPBELL, AND JOHN SHAFFER

vs.

JAMES BARCLAY ET AL. IN EQUITY..

Where prevention of the violation of an inventor's rights is sought, the equity jurisdiction of the court must be invoked, as alone competent to furnish adequate relief. A court of law possesses no such power; its remedies afford redress only for past infringement, but no effectual security against future aggressions.

A trial at law is not a prerequisite to the exercise of the equity jurisdiction of the circuit court.

There is a broad distinction between the jurisdictional right to take cognizance of a complaint, and a denial of the relief which the complainants ask. Want of equity does not imply a defect of jurisdiction.

The public use, for more than two years before the application, which renders a patent void, may be a public use by the inventor himself of a single machine.

The patentee completed his invention in 1855, and placed it on a steamboat which he owned, and used it as long as the boat remained under his control. He applied in April, 1865, for a patent, which was granted in February, 1866: *Held*, that the patent was void.

The act of 1861, which requires "that all applications for patents shall be completed and prepared for examination within two years," also provides that the delay may be condoned by proof to the satisfaction of the commissioner, that it was unavoidable. If a patent be granted, it must be assumed that there was evidence before the commissioner

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to show that there was no unavoidable delay in preparing the application for examination.

The decision of the commissioner upon a question of fact, upon which he is authorized to pass, is unimpeachable, except upon the ground that it is *ultra vires*. An infringer can not assail it for fraud, much less for mere error of judgment.

The proof of actual abandonment, after application filed, ought to be indubitably clear. It ought not to rest upon doubtful or disputable inferences.

During two years before he applies for a patent, an inventor may publicly sell and use his invention, without any presumption of abandonment.

If an inventor has furnished, by his application for a patent, conclusive evidence that he does not intend to abandon his invention to the public, the disproof of this intention ought to be by evidence of equal weight and significance.

M. applied for a patent July 23, 1855; after various proceedings, he was finally rejected August 25, 1856, on appeal to the commissioner. He did nothing more until the early part of 1867, when the specification was amended, and the patent was granted April 16, 1867: *Held*, that there was no abandonment of the application between 1856 and 1867.

If the defendants appropriated the invention of the patentee, without consulting him, and he was passive when he knew it, because he was powerless to prevent them, he is not estopped from asserting his right when he is in a condition to enforce it.

Although prior publications may be remotely suggestive of the invention, yet if they do not describe it in such terms that the public could construct and put it in practice, without further invention, they can not destroy the patent.

If a new or improved useful result is effected by means before well known, or any useful result is produced by a new mechanical device, or combination of old mechanical devices, in both cases the exercise of invention must necessarily be presumed, because both are the proper subjects of a patent.

The presumption of law is that the patentee is the original inventor of that for which he has obtained a patent. The burden of disproving this is upon the party who denies it. Evidence of disputable or doubtful import will not meet this requirement, but it must be clear and convincing. To doubt is to be resolved against the party upon whom the burden rests.

Letters patent "for improvement in applying steam-power to the capstans of steamboats and other crafts," granted to John S. M'Millin, April 16, 1867, are valid.

The import of the claim is operating the capstan of a steamboat by power transmitted from an auxiliary engine, when both engine and capstan

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are placed on the deck of the boat, forward of the steam-boilers, so that their separate efficiency for all other purposes is preserved.

(Before MCKENNAN, J., Western District of Pennsylvania, November, 1871.)

FINAL hearing on pleadings and proofs.

Suit brought upon two letters patent, granted to complainant, John S. M'Millin, one for "improvements in capstans for steamboats and other vessels," dated February 20, 1866; and the other for "improvement in applying steam-power to the capstans of steamboats and other crafts," dated April 16, 1867.

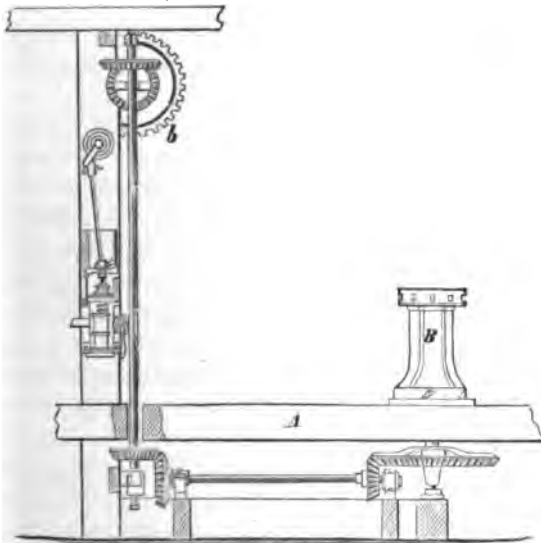
The claims of these patents were as follows:

Patent of 1866:

"The arrangement of the wheels, *l, m, n, o, k, j, i, h, e,* and *d,* shafts, *6, 5, 4, 3,* and *B,* capstan-barrel, *p,* heads, *q* and *r,* and pins, *2,* the whole being constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

Patent of 1867:

"Rotating a capstan, placed on deck of a boat, by means of an auxiliary engine, when said engine and capstan are placed forward of the steam-boilers of said boat, substantially as hereinbefore described, and for the purpose set forth."



A. The deck of a steamboat. B. The capstan.

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The foregoing engraving represents the invention embodied in the patent of 1867, which is the only one which it is material to illustrate, in view of the opinion.

Bakewell & Christy, for complainants.

M. W. Acheson and *John Barton*, for defendants.

McKENNAN, J.

June 9, 1855, John S. M'Millin, one of the complainants, filed a caveat in the Patent Office; and, on the 23d of July following, an application for a patent for a new and useful improvement in applying steam-power to the capstans of steamboats and other crafts. After several rejections and repeated renewals of his application, a patent was finally granted to him April 16, 1867, No. 63,917.

April 25, 1865, he applied for a patent for new and useful improvements in capstans for steamboats and other vessels, which was patented February 20, 1866, No. 52,730.

Of his interest in these patents he assigned two-thirds to Hugh Campbell and John Shaffer, and they are, therefore, joint complainants with him in the present bill, praying for an account and an injunction against the respondents for an alleged infringement of both patents.

To this bill the respondents interpose the plea "that its subject matter is not within the jurisdiction of a court of equity, there being a direct, certain, full, and adequate remedy at law for such alleged grievance." I am not aware that it has ever been held that the court has not jurisdiction of a bill to enjoin the use of a patented invention, and for an account of profits by an infringer, because an action at law may be maintained to recover damages for infringement. By section 17 of the act of July 4, 1836, re-enacted by the act of July 8, 1870, original jurisdiction is conferred upon the circuit courts, as well in equity as at law, in all suits for the violation of the rights of inventors, under the patent laws, and they are authorized, "upon bill in equity, filed by any party aggrieved, in any such case, to grant injunctions, according to the course and principles of courts of equity, to prevent the violation of the rights of any inventor as secured to him by any

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law of the United States, on such terms and conditions as said courts may deem reasonable." It is clear from this that the circuit court may rightfully take cognizance of every controversy arising under the patent laws, and that where prevention of a violation of an inventor's rights is sought, the equity jurisdiction of the court must be invoked, as alone competent to furnish adequate relief. A court of law possesses no such power; its remedies afford redress only for past infringement, but no effectual security against future aggressions. "The principle," says Mr. Justice Wayne, in *Mott v. Bennett*, 2 Fisher, 645, "upon which courts of equity have jurisdiction in patent cases, and upon which injunctions are granted in them, is not that there is no legal remedy, but that the law does not furnish a complete remedy to those whose property is invaded; for, if each infringement of the patent were to be made a distinct cause of action, the remedy would be worse than the evil. The inventor or author might be ruined by the necessity of perpetual litigation, without ever being able to have a final establishment of his rights." *Hogg v. Kirby*, 8 Ves. 223; *Harmer v. Planc*, 14 Ves. 132; *Lawrence v. Smith*, Jacobs, 472.

Nor is a trial at law a prerequisite to the exercise of this jurisdiction. Such trial may be ordered; but if its allowance were demandable of right, still the jurisdiction of the court would remain untouched, because, in the end, its result might be adopted or rejected, as the exigencies of equity might require. But it is altogether within the sound discretion of the court to allow or refuse such trial. In *Goodyear v. Day*, 2 Wall. Jr. 296, Mr. Justice Grier says: "It is a practice founded more on convenience than necessity. * * * A trial at law is ordered by a chancellor to inform his conscience; not because either party may demand it as a matter of right, or that a court of equity is incompetent to pass upon questions of fact or of legal titles. In the courts of the United States the practice is by no means so general as in England, or as it would be here, if the trouble of trying issues at law devolved on a different court."

The subject matter of this bill is an alleged infringement of the right of an inventor, and the relief prayed for is an injunction to restrain the further invasion of it. It is then within the express

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terms of the act of Congress, defining the jurisdiction of this court, and authorizing the exercise of equity powers to effectuate it.

There is a broad distinction between the jurisdictional right to take cognizance of a complaint, and a denial of the relief which the complainant asks. Although the relief invoked may be refused, it does not follow that it is because the court can not inquire into the merits of the cause, and adjudge it accordingly. Want of equity does not imply a defect of jurisdiction. But it is only when the court is without power to pass upon the subject matter of the complaint, or to grant the relief sought, that its jurisdiction may be challenged.

These views are in no wise discordant with the manuscript opinion of Mr. Justice Grier, in *Sanders v. Logan*, Western District of Pennsylvania, 1859, 2 Fisher, 167. So far from disclaiming the jurisdiction of the court, he in effect affirms it, by adjudicating the case upon its merits, and denying complainant's prayer, for the reason that he only asked what could be better secured by an action at law, and that to grant his prayer would inflict irreparable injury upon the respondent, but could not benefit him. It is an authority only for a conclusion, founded upon special facts and circumstances, such as characterized the case before him.

The respondents' plea to the jurisdiction must, therefore, be overruled.

The answer of the respondents denies infringement, and sets up various defenses, involving mainly the novelty of the invention and the claim of the parties to originality. These several defenses will be noticed in their proper order.

Two patents are in controversy. The first of these, in the order of date, is the last one applied for. Its claim is much less comprehensive than that of the other. In fact, as describing the method of effectuating the invention claimed in the last issued patent, it is really within the scope of the patent, although the latter is not limited to the specific combination claimed in the former patent. It seems to have been sought for in its restricted form, by reason of the rejection of the first and broader application, and to have led finally to the allowance of that application. The claim is for an arrangement or combination of specified mechanical devices, for the purpose of connecting the capstan of a

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steamboat with what is commonly known as the "little nigger engine," the whole constructed, arranged, and operating as described in the specification. No one of these devices is claimed as the invention of the patentee; it is their combination and adaptation to the production of a new result, in which the novelty of the invention is alleged to consist. The application for this patent was filed April 25, 1865, and the patent was issued February 20, 1866. It is now alleged to be void, for the reason that the invention described in it was in public use more than two years before the application.

The patentee was engaged in the business of navigation on the western rivers, and in 1854 bought the hull of a steamboat, upon which he proposed to introduce a mechanical arrangement to operate the capstan by a connection with the "nigger engine." The boat was finished in June, 1855, and was supplied with bevel gearing, by means of which the capstan was actuated by steam derived from the "nigger engine"—the whole embodying the same mechanical elements and arrangements which were described in this patent. The steamboat was called the "Silver Wave;" was chiefly owned by the patentee, and was commanded and navigated by him for many years afterward. During all this time, this improved capstan arrangement was used upon her, without any, or at least any material change. More than two years, therefore, elapsed, during which this use continued, before the application for this patent.

The question then is, did such use of the invention invalidate the patent?

The act of July 4, 1836, forbids the granting of a patent for an invention which had, at the time of the application therefor, been in public use or on sale, with the consent or allowance of the inventor. This provision is modified by the act of March 3, 1839, so as to allow such use or sale for two years prior to the application. Different opinions have been entertained as to the kind of use which these acts of Congress contemplate. By some judges, they have been held to mean a use in public by persons other than the inventor; and again, others have held that a use in public by the inventor himself, which is not merely experimental, will have the effect of invalidating the patent. In *Ryan v. Goodwin*, 3 Sum. 518, Mr. Justice Story says: "It is clear by our

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law, whatever it may be by the law of England, that the public use or sale of an invention, in order to deprive the inventor of his right to a patent, must be a public use or sale by others, with his knowledge and consent, before his application therefor." But he must be understood to have predicated this of the facts in the case before him, in which only a use by persons other than the inventor was alleged. While the object of the law was to protect the public against the exclusive claim of an inventor who had dedicated his invention to their use, by allowing its practical employment in public, it was, at the same time, designed to require of him reasonable diligence in applying for his patent. As it is the public use of a completed invention against which this provision of the law is directed, it could scarcely have been intended to authorize such use by the inventor himself, which, if employed by another, with his consent, would work a forfeiture of his right to a patent. His own direct act is just as significant of an intended abandonment of his inchoate right as is that of another, with his consent. Indeed, it is difficult to comprehend that a use in public by an inventor himself is not as effectually "a public use with his consent and allowance," as where his invention is permissively so employed by another. So it was held in *Pitts v. Hall*, 2 Blatch. 235. Mr. Justice Nelson there says: "The patentee may forfeit his right to the invention, if he constructs it and vends it to others to use, or if he uses it publicly himself, in the ordinary way of public use of a machine, at any time prior to the period of two years before he makes his application for a patent. That is, he is not allowed to derive any benefit from the sale or use of his machine, without forfeiting his right, except within two years prior to the time he makes his application. * * *

On the other hand, if the machine was complete when it was constructed in June, 1843, and if the patentee put it into public use, or put it into operation himself publicly, deriving profit from it, and having no view of further improvements, or of ascertaining its defects, then, this use having occurred anterior to the two years, the effect would be to work a forfeiture."

It remains, then, to inquire whether the use by the patentee of his invention, more than two years before his application for a patent, was only a trial of it to test its efficiency, or ascertain its defects, and was, therefore, merely experimental. On this point,

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the proofs are decisively clear. On June 16, 1855, he filed in the Patent Office a *caveat*, in which he set forth that he had made certain improvements in applying steam-power to the capstans of steamboats, and that he was then engaged in experiments to perfect the same, preparatory to his application for a patent therefor; and he therein described the mechanism, substantially as claimed in the patent in question. On the 23d July following, he filed his application for a patent, accompanied by drawings, a model, and specification, in which are set forth the same mechanical devices, by means of which the invention therein claimed might be practiced. His invention then was complete. At this time, he had constructed and applied it on the "Silver Wave," and he continued to use it on her for years, as long as she remained under his control. In no sense, can this prolonged use be regarded as a mere trial of the invention to discover defects and make improvements. Indeed, on the first trip of the vessel its complete efficiency was demonstrated. It was obviously the use of an invention considered as complete, and with a view to derive such benefit from it, as might be due to a more efficient and economical mode of operating steamboat capstans than had been before applied. It was used, too, in the ordinary way of the public use of such mechanism. In the words of the act of Congress, it was a public use of the invention, with the consent and allowance of the inventor. The result is that his patent of February 20, 1866, No. 52,730, is invalid, and can not be made the basis of a decree in his favor.

The patent of April 16, 1867, No. 63,917, stands upon a different footing. As already said, the invention claimed in it is of broader scope than that described in the patent of 1866. It is stated to be a "new and useful improvement in applying steam-power to the capstans of steamboats and other crafts," and, as set forth in the claim, consists in "rotating a capstan, placed on deck of a boat, by means of an auxiliary engine, when said engine and capstan are placed forward of the steam-boilers of said boat, substantially as hereinbefore described, and for the purposes set forth." The mechanical instrumentalities by which the prescribed result is effected are fully described in the specification. The import of the claim, then, is this—operating the capstan of a steamboat by certain mechanical means, actuated by steam derived

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from an auxiliary engine, where both the engine and the capstan are stationed on the deck of the boat forward of the steam-boilers. The mere effect indicated, however valuable it may be, is not claimed, for that would clearly be unallowable; but it is this effect, produced by means substantially as described, and employed under the conditions stated. If the result, thus accomplished, is new and useful, there can be no doubt of the validity of the patent, so far as its subject matter is concerned. I do not understand this to be contested by the respondent; but a clear definition and comprehension of the nature of the invention described in the patent are important in considering the defenses set up in the answer.

These defenses are:

1. That under section 12 of the act of March 2, 1861, the patentee's application should be regarded as abandoned, and the patent, therefore, as having been improperly granted.
2. That the invention was, in fact, abandoned, and that the patentee is estopped from enforcing his exclusive right against any one using his invention.
3. That, in view of the state of the art when the patentee made his application for a patent, the invention was not novel.
4. That the invention claimed was not original with the patentee.
5. That the respondents are not infringers.

1. The application for this patent was filed July 23, 1855, and on August 25, 1856, on appeal to the Commissioner of Patents, it was finally rejected. It stood then until the early part of 1867, when the specification was amended, and its renewed consideration was urged upon the Patent Office. This effort resulted in the granting of a patent, April 16, 1867. Under these circumstances, it is urged that the application was not "completed and prepared for examination within the time required by the act of 1861, and that the patent is invalid for that reason. The section referred to enacts: "That all applications for patents shall be completed and prepared for examination within two years after the filing of the petition, and, in default thereof, they shall be regarded as abandoned by the parties thereto, unless it be shown to the satisfaction of the Commissioner of Patents that such delay

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was unavoidable; and all applications now pending shall be treated as if filed after the passage of this act." This undoubtedly puts applications, pending when the act was passed, on the same footing with those subsequently made, and both alike are within its purview, and subject to its operation. Conceding, however, that the act is to be so construed as to bring the present application within its scope—which is by no means clear—it can not be invoked to invalidate the patent.

The act does not interpose an absolute bar to the granting of a patent, where the application has not been completed and prepared for examination within two years. The delay may be condoned by proof that it was unavoidable. The decision of this fact is committed to the Commissioner of Patents. If it is shown to his satisfaction that the delay was unavoidable, the application is not to be regarded as abandoned. He is invested with power to grant the patent, and he may exercise it, subject to the duty of determining that the preparation of the application for examination was not unnecessarily delayed after two years. This is the plain meaning of the act, and there can be no doubt about it. Now, it must be assumed that there was evidence before the commissioner to show that there was no unavoidable delay in preparing this application for examination, after two years from the passage of the act. Its sufficiency was for him, and, in the exercise of the judicial function intrusted to him, he has decided the fact in favor of the patentee. He was the only judge to be "satisfied," and his judgment is conclusive. This court, at least, has no power to revise it, at the instance of the respondents, but must take for granted the truth of the fact which the law authorized him to determine. This is too well settled to need any citation of authority to sustain it. It is to be found in the numerous cases which hold, in accordance with a familiar general rule, that the decision of the commissioner upon a question of fact, upon which he is authorized to pass, is unimpeachable, except upon the ground that it is *ultra vires*. An infringer can not assail it for fraud, much less for mere error of judgment.

2. Nor has the second branch of the defense, that the invention was actually abandoned, any better foothold. This must result from the intention of the patentee, expressly declared, or clearly indicated by his acts. There is certainly no evidence in the case

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of any express declaration of the patentee to that effect; and, if the lapse of years between the date of his application and of his patent, and his own conduct, can be fully explained upon any other hypothesis, they ought not to be imputed to an intention on his part to abandon his invention. The proof of actual abandonment, after application filed, ought to be indubitably clear. It ought not to rest upon doubtful or disputable inferences. During two years before he applies for a patent, an inventor may publicly sell and use his invention, without any presumption of abandonment. Upon what reason, then, should he be regarded as having given up his invention to the public, merely because a public officer has repeatedly denied his application for a patent, and the recognition of his right has thus been delayed for years, when he was powerless to prevent it? "By the application filed in the Patent Office," says Mr. Justice Grier, in *Adams v. Jones*, 1 Fisher, 527, "the inventor makes a full disclosure of his invention, and gives public notice of his claim for a patent. It is conclusive evidence that the inventor does not intend to abandon it to the public. The delay afterward interposed, either by the mistakes of the public officers or the delay of courts, where gross laches can not be imputed to the applicant, can not affect his right."

If an inventor has furnished, by his application for a patent, conclusive evidence that he does not intend to abandon his invention to the public, the disproof of this intention ought to be by evidence of equal weight and significance. The proof in this case falls far short of that standard. Indeed, if the applicant was required to disprove an imputation of only sluggish diligence, the records of the Patent Office would more than meet such a demand. His application twice rejected, and as often renewed; appeals taken to the board of examiners and to the Commissioner of Patents; a new application filed in aid of his first; this one twice rejected, and as often renewed; an appeal and final rejection; another application limited to the combination of mechanical devices described in his first application; its rejection and renewal under an amendment of his specification, and the grant of a patent upon it; then a revival of his old application, accompanied by satisfactory proof that he had not abandoned his invention, and, some time after, followed by a decision in his favor and the issue

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of a patent. So far, then, from showing gross laches, this is a record of unexampled tentativeness, in the face of repulses by which most men would have been thoroughly disheartened. Not so the applicant here, but each failure only brought into stronger light the fixed purpose and unrelaxing diligence with which he sought to secure the recognition of his rights. He was not only a persistent, but an importunate solicitor, and to his importunity was largely due the ultimate result in his favor. Now, as the delay of the decision in his case is all that remains touching his alleged laches, it is hardly necessary to add that it is not to be imputed to him, because he did all he could to prevent it, but that the responsibility for it rests solely with the Patent Office.

I have failed to discover any evidence upon which an equitable estoppel in favor of the respondents can rest. It must necessarily grow out of some declaration or act of the applicant, by which they were induced to believe that they might rightfully or innocently use the invention now claimed by him. If they appropriated it without consulting him, and he was passive when he knew it, because he was powerless to prevent them, he is not estopped from asserting his right when he is in a condition to enforce it. If they took the risk of using what they did not own, the owner's helplessness then will not shield them from accountability to him now. This is the only effect of the proof; for, although the applicant publicly used his invention after he applied for a patent, he did not intend to abandon it, as has been already shown; and, as he had a clear right so to use it, the law does not presume from that fact that he assented to its use by others. *Ryan v. Goodwin*, 3 Sum. 519. Nor is this supposed estoppel invigorated by the fact that invasion of the patentee's rights has been wide-spread, and that all who may be found in that category may be held liable accordingly. Whoever reaps where he did not sow, wrongfully appropriates what belongs to another, and equity will not stay the hand of the rightful owner of the harvest against him. /

3. The next objection to the patent is that the invention described in it was previously described in printed publications, and was anticipated by like mechanism devised by others.

It would unnecessarily extend this opinion to point out in detail the specific differences between the several exhibits in evidence

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and the invention claimed by M'Millin. Of the publications exhibited, it may be said, generally, that they do not describe M'Millin's invention. Remotely suggestive of it they may be, but they do not describe it in such terms that the public could construct and put it in practice without further invention. Prior publications must come up, at least, to this measure of fullness and precision. Even a stricter rule is prescribed by high authority; for in *Hill v. Evans*, 6 Law Times, N. S. 90, it is held that the publication must furnish "knowledge equal to that required to be given by a patent, namely, such knowledge as will enable the public to perceive the very discovery, and to carry the invention into practical use." / No such exactness of description of M'Millin's invention is to be found in any of these publications. They indicate methods for the working by steam of coiling devices of different forms; but none of them, except Sickel's patent, contemplates the employment of an auxiliary engine, or the retention of the capstan on the forecastle of the boat, so that all the functions it is required to perform are unimpaired. In their mode of operation they are different from M'Millin's, and certainly, by conforming to the directions given for their construction and application, the public would not be able to construct and carry into practical use M'Millin's method. That a windlass or a drum, or any other form of coiling device might be operated by steam, or that a capstan might be so operated, when the place where it must be kept to perform its peculiar office is changed, and it is located in proximity to its motor, is not the problem which he proposed to solve. If that were so, he could not claim the merit of originality. But he aimed at the accomplishment of a result not before produced, under the conditions prescribed by him, by a new arrangement and organization of old instrumentalities adapted to that end.

It is satisfactorily shown by the proofs, that upon steamboats navigating the western rivers, the operation of the capstan, in its usual place, by the main engine, is impracticable. Certainly it has not been done. Before M'Millin's invention, the capstan in these boats was worked by muscular power alone. If a method, then, could be devised by which the power of steam could be applied to the capstan, without changing its location, so that it could be worked more economically, easily, and efficiently, a new and

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useful result would thereby be produced. This was the problem which engaged the thoughts of M'Millin, and he solved it by taking the capstan in its accustomed place, and the auxiliary or "nigger" engine at the place usually assigned to it, both forward of the main engine, and connecting them by appropriate, but well-known mechanical devices, thereby producing the desired result.

It is to be observed that the retention of the auxiliary engine and the capstan in the positions where they were before located, is an essential element of this method. The main object was to secure the unabridged performance of other valuable functions pertaining to them. Now, by the patents and other publications referred to, no information is furnished as to where the engine and capstan must be located to produce the results effected by M'Millin's invention. On the contrary, assuming that they all describe a capstan, or its fair equivalent, the capstan must be located so that its usefulness, derived from its position on the fore-castle, is lost, or the engine, which actuates it, so that it can not be used for the purposes for which the "nigger" engine is employed.

But it is urged that, as the "nigger" engine and capstan were before used independently on steamboats, and bevel gearing was before used to connect machinery in mills, any mechanic of ordinary skill could supply the mode of connecting the "nigger" engine and capstan employed by the patentee, and, therefore, no inventive skill was exerted by him. This is a narrow view of the patentee's invention. If a new or improved useful result is effected by means before well known, or any useful result is produced by a new mechanical device, or combination of old mechanical devices, in both cases the exercise of invention must necessarily be presumed, because both are the proper subjects of a patent. If the patentee, then, has devised a method of rotating the capstan of a steamboat, by an organization of elements not before employed in the concrete, for that or an analogous purpose, or if his method produces an improved result, a sufficiency of invention to support his patent must be presumed. The proofs undeniably show that he did demonstrate the practicability of operating the capstan of a steamboat by power transmitted from the "nigger engine," without changing the place of either, so that

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their separate efficiency for all other purposes was preserved. They show more—that he was the first to do this, and that it was followed by the almost universal abandonment, on western boats, of the old method of working the capstan, and the adoption of M'Millin's. With the suggestive help of all this literature of the art, and the stimulus of a result of such general interest and utility to be achieved, no one put in practice a method of effecting it, until M'Millin demonstrated it to the public. These are notable facts, and surely they are persuasive, not only that the result accomplished was novel, but that it was the fruit of inventive skill.

Of the other exhibits but little need be said. They all fall short of illustrating M'Millin's complete method, or of embodying all the essential features of his organization.

The first of these is the capstan on the "John H. Bills." It was arranged horizontally on one side, and nearer the stern than the bow of the boat; was coupled to the starboard wheel, and could therefore only move with and in the direction of the wheels. It was operated by the main engine through the paddle-wheel, and, after some time, was abandoned. If it embodied M'Millin's invention, which it plainly did not, as an abandoned experiment, it can not affect his patent.

In 1851, A. Martin made a model of a freight-hoisting apparatus to be operated by the "doctor" engine, aft the main engine. It was not put into practical use, was left by Martin on the steamer "Georgia," in 1852, was shortly after burned up and was forgotten. However it may have been constructed, or what its intended use, it is plainly valueless as evidence in this case.

The Marine Railway at Cincinnati embodies in its construction several vertical shafts. On the upper end of each of these a spool is made, around which the ropes used in drawing boats up the ways are coiled. These shafts are located fixedly on the bank of the river, and are revolved by the power of the main engine. Taking them and their mode of operation as a guide, the highest degree of mechanical skill, without invention, would be found inadequate to construct and apply M'Millin's invention.

Of the devices used on the "Hope," it is only necessary to say that they were constructed more than a year after the time to

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which M'Millin's invention relates back, and can not, therefore, impugn its novelty.

4. The only remaining question, affecting the validity of the patent, is, was M'Millin the author of the invention claimed by him?

The presumption of law is that a patentee is the original inventor of that for which he has obtained a patent. The burden of disproving this is upon the party who denies it. Evidence of disputable or doubtful import will not meet this requirement, but it must be clear and convincing. To doubt is to be resolved against the party upon whom the burden rests. / It is alleged here that John Shaffer, one of the complainants, is the author of the invention claimed by M'Millin; that he had a drawing of it prepared, in which are exhibited the essential features of M'Millin's plan; and that M'Millin saw and examined it, and derived from it the first knowledge he had of what he now claims to have devised himself.

There is no dispute that this drawing represented, substantially, the M'Millin invention, or that M'Millin saw and examined it. The earliest date of its existence, which the proofs can be claimed to show, is November 20, 1854; but M'Millin did not see it for a considerable time, perhaps several months, after that date. In August, 1854, he bought the hull of the "Silver Wave," and at once ordered such changes in its construction as would fairly indicate a purpose to operate the capstan by power transmitted from the "nigger" engine. This hull, in the spring of 1855, was brought to Pittsburg, to be supplied with its outfit of machinery. A main engine and a "nigger" engine were ordered for it, and different machinists were employed to make a connection of some sort between the latter and the capstan. It is evident, therefore, at this time, that M'Millin entertained the purpose, and had in his mind a plan, definite or indefinite, to operate the capstan by power derived from the "nigger" engine. During the progress of his efforts in this direction, the Shaffer drawing was shown to him, when he at once declared that it represented what he wanted, and the connections indicated by it were made accordingly. It is claimed by the respondents, that, up to this time, he had not devised any practical or determinate plan for carrying his purpose into effect, but that it was furnished to him by the Shaffer draw-

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ing. Much testimony has been taken in relation to his declarations, and as to conversations with him, after he bought the "Silver Wave," for which this effect is earnestly claimed. If this were the only evidence, it might, not illogically, be treated as sustaining the respondents' hypothesis; although the weight of most of it is dependent upon the accurate recollection by witnesses, after the lapse of years, of the full and precise import of conversations with M'Millin, and of the dates and order of time when they occurred, in relation to the time when he examined the Shaffer drawing. But such is not the conclusion to which a consideration of all the evidence would lead.

It is evident that this subject had occupied the thoughts of M'Millin for years. His experience in the management of steamboats on the western rivers enabled him to comprehend the advantages to be derived from the operation of the capstan by steam. To accomplish this by a connection with the main engine was confessedly impracticable. The only possible mode was to make the "nigger" engine available for that purpose. But this engine and the capstan each had appropriate and indispensable functions to perform, and it was therefore a condition that they should be retained in their accustomed places. To effect their co-operation, and at the same time to preserve their separate efficiency, was the problem which engaged McMillin's reflections. That he conceived a practical solution of it, I think is clearly proved. He had not tested it by experiment, and therefore he was prompt to heed, and even to defer to the suggestions of experience and mechanical skill. This may account for his adoption, at first, of Hartupée's suggestion of the endless chain to connect the "nigger" engine with the capstan. At any rate, it is obvious he had sought the aid of Hartupée, as a machinist, to embody in a practical form, on the "Silver Wave," a plan which he had before formed in his own mind. However this may be, the testimony of William O. Leslie and John E. Smith conclusively shows that, long before, his speculations had reached the maturity of a definite method of reducing them to practice. In the fall of 1853 he had a conversation with Mr. Leslie, in which he explained his mode of working a steamboat capstan by power transmitted from the "nigger" engine, by means of shafting and bevel wheels, substantially as described in his specification; illustrated it by a rough

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sketch on paper, and suggested its application to the Coal Hill inclined railway, in which they were both interested. Like conversations occurred between them afterward, during the winter of 1853-54. In the spring or early part of the summer of 1854, a similar explanation was made by him to John E. Smith. He then described how the attachments between the "nigger" engine and capstan should be made, consisting of a "bevel-wheeled gearing and upright shaft from the 'nigger' down into the hold—the horizontal shaft with the same kind of gearing connecting that with the spindle of the capstan." The significance of this testimony is apparent. It is given by unimpeached and disinterested witnesses. Its accuracy as to approximate dates is supported by satisfactory reasons. It is, therefore, entitled to full credence. And it is decisive of the fact that more than a year before the Shaffer drawing is shown to have been in existence, or M'Millin had seen it, he had devised the mechanical means of practicing his invention, substantially as he has described them in his specification. The legal presumption that he invented what he has patented is not impugned.

5. The fact of infringement by the respondents is satisfactorily proved. The models exhibited in evidence clearly show this—*Oculis subjecta fidelibus*.

From the course of the proofs, the respondents' denial of infringement would seem to have been made upon the assumption that this patent also was for a technical combination of mechanical devices. As before stated, this is not so. It is for an improvement in operating capstans by steam, under prescribed conditions, and by means substantially as described. To produce the same result by a mechanical organization not essentially different from that described in the patent, is within its scope. On the respondents' boat, the "Armenia," the capstan is rotated by power derived from the "nigger" engine, both being forward of the main engine, through mechanical connections, which, in their mode of operation, are the same, and in their construction and arrangement are substantially the same as are described in the patent.

The result of the whole case is that the letters patent No. 63,917, dated April 16, 1867, are valid; that the respondents have infringed them, and that the complainants are entitled to a decree for an injunction and an account, with costs.

A decree will be prepared accordingly.

Dubois v. Philadelphia, Wilmington and Baltimore R. R.

JOHN DUBOIS

vs.

THE PHILADELPHIA, WILMINGTON AND BALTIMORE
RAILROAD COMPANY.

When, in a former suit between the same parties, the defendant had put in issue the novelty of the invention patented to the plaintiff, by proper plea and notice, but, upon the trial of a second suit, attempted to offer additional evidence upon the same issue, including certain English patents not offered or referred to in the first case: *Held*, that the defendant, in the second action, was estopped, by the judgment in the former case, from denying the novelty of the invention.

(Before GILES, J., District of Maryland, November, 1871.)

ACTION at law.

Suit brought upon letters patent for an "improvement in the mode of building piers for bridges," granted to plaintiff, September 23, 1862, in the construction of defendants' railway bridge across the Susquehanna river at Havre de Grace.

The infringement consisted in the use of water-tight iron caissons, which were added to in height from time to time, as the masonry within them increased in weight, and until they settled on the foundations prepared for them at the bottom of the river. The iron caisson was left on the pier when it was completed.

A suit had been brought by the plaintiff against the defendants when five of the piers had been finished. This action was tried in November, 1867, when the plaintiff obtained a verdict. There were fourteen piers in all; and when the remaining nine were finished, a new suit was brought to recover damages arising by reason of their construction.

On the trial of the first suit, the pleadings put in issue the novelty and originality of the invention, as well as the question of infringement and the amount of damages. There was a notice

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and an enumeration of the ground of defense, together with the names of witnesses, under the act of July 4, 1836.

At the present trial, the same defenses were set up, and a much fuller notice was given; and, among others matters relied on, not mentioned in the first suit, were two English patents—one granted to one Winder for the use of sectional caissons, which the defendants insisted were identical with the plaintiff's; and the other granted to one Beardmere for the use of iron as a protection to the pier when completed. There were other defenses, which the defendant also relied on, but which it is not necessary to detail for the purposes of the present report.

When the English patents and the other documentary evidence to the same effect were offered by defendants, the plaintiff objected to their admission on the ground that the defendants were estopped from denying the novelty and originality of the invention by the judgment in the former case, and offered the record thereof in evidence. /

The plaintiff's counsel, having stated briefly the general doctrine on the subject of estoppels, relied upon its application in the present case, which, it was insisted, had nothing to distinguish it from the class of cases commencing with the *Duchess of Kingston's*, which, it was contended, had settled the law upon the subject conclusively.

In reply, the defendant's counsel insisted that the case was not governed by the general law referred to; that the case, although between individuals, was one in which the public at large was interested, as was shown by the fact that a judgment against the defendant became the foundation for a preliminary injunction against other parties, who might be permanently injured thereby, or, at all events, until upon final hearing, the defense now relied on could be maintained; that assuming, as was insisted, that the defenses sought to be excluded, would, if admitted, prove the plaintiff's patent worthless, the effect of the judgment would be to give him a right as against this particular defendant, which he would have against no one else; that a verdict against him in another suit, brought against another party even, would not, if the plaintiff was right, affect his recovery against these defendants in the event of their again using the invention described in his patent; that it

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was impossible that a construction of the doctrine of estoppel, which involved such consequences, could be a just one.

The defendants further insisted that the issues in the present case were not the issues in the former case; that the issues, then, were whether, as against the special matters then given in evidence, the plaintiff's patent was valid; that the introduction of the English patents, etc., now presented new issues, which had never before been presented to the jury; and that, giving to the doctrine of estoppel the full force contended for, it did not apply to the facts here.

Samuel Linn, Luther M. Reynolds, and William H. Armstrong, for plaintiff.

William Schley, Thomas Donaldson, and J. H. B. Latrobe, for defendants.

GILES, J.,

Stopped the plaintiff's counsel when about to reply, and said: I have no doubt of the application of the doctrine of estoppel to the case. There is no difference in this respect between this case and any other. It is true the point is one that does not appear to have been decided in a patent cause; but, in the opinion of the court, that makes no difference. The principle involved is as applicable to patent cases as to any other cases. If it were not, there would be no end of litigation between the same parties. Every new suit would be met by a new defense. It was the purpose of the law to prevent this continued litigation. [The court referred to several authorities, and particularly to the case of *Town of Beloit v. Morgan*, 7 Wall. 619.]

NOTE.—The report of this case is furnished by Mr. Latrobe, one of the counsel, and is indorsed by Judge Giles as a correct report of the point decided.

Peek v. Frame.

EBEN PEEK ET AL.

vs.

JOHN FRAME ET AL.

The mere fact that the plaintiff has obtained a verdict in an action on the case for the infringement of a patent, is not conclusive that he is entitled to costs; for if the verdict be rendered in pursuance of section 9, act of 1837, for the infringement of valid claims, while other claims are rejected as void for want of novelty, the plaintiff can not recover costs.

Nor does the fact that, since the verdict, the plaintiff has disclaimed one or more of the claims of the patent, deprive him of his right to recover costs. Such a disclaimer might be a ground for a new trial, but so long as the verdict remains in force the plaintiff is entitled to the benefit of it.

A disclaimer is necessary only where the thing claimed without right is a material and substantial part of the machine invented.

If the disclaimer be of immaterial matters, it would seem that the filing of it does not affect the plaintiff's right to costs.

(Before WOODRUFF, J., Southern District of New York, December, 1871.)

MOTION for the allowance of costs in an action at law referred to in the report of the case of *Peek v. Frame, ante*, 113.

It appeared that after the verdict was rendered, the plaintiff had filed a disclaimer to some of the claims of the patent in suit, and it was insisted that this was equivalent to a verdict against those claims upon the trial, which would have deprived the plaintiff of the right to recover costs.

Frederic H. Betts, for plaintiffs.

Keller & Blake, for defendants.

WOODRUFF, J.

The papers submitted to me are wholly insufficient to show that the plaintiffs are not entitled to costs herein. The brief of

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the plaintiffs' counsel recites some facts, but they are not decisive. On the one hand, the mere fact that the plaintiffs obtained a verdict is not conclusive that they are also entitled to costs; for they may have obtained the verdict under and in pursuance of section 9 of the act of 1837, which warrants a recovery for an infringement of what is, in fact, new, and claimed as the plaintiffs' invention, notwithstanding the patentee has also, through mistake, without fraud or intent to deceive, claimed something which is not new.

If this verdict was rendered for an infringement of valid claims, and it appeared that other claims were rejected in pursuance of that section, then, although the plaintiffs obtained a verdict, they are not entitled to costs. But if the verdict was, in fact, upon all the claims, in affirmance of the validity of each, and of the novelty of the inventions claimed in each, then the plaintiffs are entitled to costs.

On the other hand, the mere fact that the plaintiffs have, since the trial and verdict, disclaimed one or more of the claims made in the patent, is not alone conclusive that the plaintiffs are not entitled to costs. If the verdict was rendered as secondly above suggested, upon all the claims, affirming their validity, and the novelty of the invention claimed in each, then what the plaintiffs may have said or done, by disclaimer or otherwise, does not deprive them of the effect of the verdict; and so long as it remains in force, not set aside, it is conclusive between the parties. The fact of disclaimer is high evidence, in such case, that the verdict was wrong, and that the plaintiff should only have recovered on the parts of the invention or patent therefor, which are not disclaimed, and such evidence might warrant a new trial. But while such a verdict stands, it is conclusive. /

And, finally, there is no evidence before me showing that, under the opinion in *Hall v. Wills*, 2 Blatch., 194, the disclaimer, or the admission which it imports, would, if made during the trial, have affected the plaintiffs' right to costs. In that case, it is held that a disclaimer is necessary only where the thing claimed without right is a material and substantial part of the machine invented. What has been disclaimed in this case does not appear by the bill of costs, nor by the plaintiffs' brief, and, of course, not by my minutes of the trial, and nothing else is before me.

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Precisely what order I am expected to make on these papers is not very clear; but treating the matter as a motion for costs on the verdict, I can only say that no sufficient ground for withholding costs, which ordinarily follow a verdict, appears or is shown. If I could treat it as an appeal from taxation (which it is stated to be in the brief submitted, though the accompanying bill of costs has not yet been taxed), I must then say that no sufficient facts are laid before me to warrant any interference therewith.

SAMUEL P. KITTLE AND FREDERICK C. PAYNE

vs.

RICHARD W. FROST, JAMES BLACK, AND GEORGE SNYDER. IN EQUITY.

The first claim of the reissued letters patent for a "spring mattress," granted to Samuel P. Kittle, October 17, 1865, namely: "The combination of the two parts, A and A', and an intervening portion of the sides of the box of a box spring mattress, having the cases containing the stuffing attached to the said sides, the said parts A and A' and the intervening portion being connected to each other by hinges, the joints of which are located twice the distance apart of the thickness of the stuffing, substantially as herein above set forth," is infringed by a mattress, in which the sides of the box are divided into five parts, in such manner that the mattress contains the combination covered by said third claim, introduced twice, once at each end of the mattress.

The said patent is valid.

K., the inventor, in April, 1863, after making the invention, agreed in writing with F., to assign to F. an undivided one-half interest under the patent when it should be issued, in and to certain specified territory, on condition that F. should perform all of the covenants on his part in the agreement, which were numerous, and concerned principally the making and selling of mattresses. Among them were, however, covenants that F. should pay "all necessary expenses of procuring a patent" for the invention, advancing the same as it should be required, \$30 of it to be advanced before May 30, 1863, and that F. should "be at the risk of all the expenses arising in the prosecution

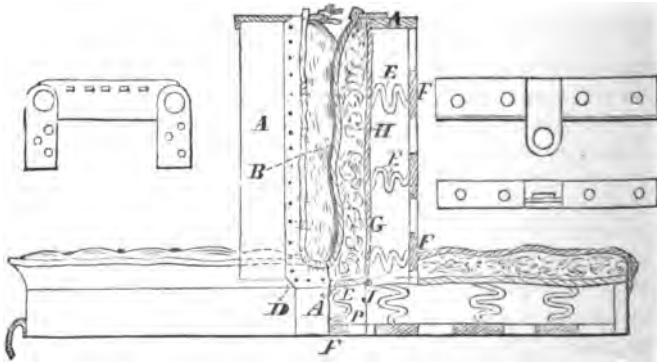
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of the case for a patent" on the invention. In June, 1864, when the application for the patent was ready to be filed, F., at the request of K., paid to K. \$15, as the fee to be paid at the Patent Office on filing the application. It was filed. Subsequently, K. notified F. of his (F.'s) failure to perform many of his covenants, and demanded a compliance with all of them. Two days after the patent was granted, K. notified F. that all his rights under the agreement were forfeited, and that he must not make any mattresses under the patent. The parties then met, and K. renewed the notice, and F., with a view to a settlement of his pecuniary transactions with K., under the agreement, presented to K. a bill, which contained, as a debit against K., the said item of \$15, as "advanced on patent:" *Held*, that this was an abandonment by F. to K., with the acquiescence of K., of all rights to F., under the agreement, to an interest in the patent.

(Before BLATCHFORD, J., Southern District of New York, December, 1871.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for an improvement in "spring mattresses," granted to Samuel P. Kittle, November 8, 1864, and reissued October 17, 1865. The nature of the invention and the claims and the substance of the contract between the parties are sufficiently stated in the opinion.



The above engraving illustrates the invention, the bed being shown both as extended and folded. The casing is removed from the section on the right, so as to exhibit the arrangement of the springs.

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S. D. Law and George Gifford, for complainants.

A. J. Todd, for defendants.

BLATCHFORD, J.

This suit is founded on reissued letters patent of the United States, granted to Samuel P. Kittle, one of the plaintiffs, October 17, 1865, for a "spring mattress," on the surrender of original letters patent granted to him November 8, 1864. The reissued patent contains seven claims, but only the first two claims are alleged to have been infringed by the defendants. The subjects of these two several claims are defined by the specification in the following language: "The first part of my invention relates to the division of the sides of the box which contains the springs on which the hair mattress or other stuffing is supported, at two points, and connecting the said parts by hinges in such a manner that the joints thereof shall be, at two points, distant from each other twice the thickness of the stuffing, and so arranged that the head or foot portion of the bed can be folded over so as to bring the principal parts of the box parallel with each other, the stuffing being between them, as hereinafter more fully set forth. The second part of my invention relates to so constructing that portion of the box which forms the short section between the hinges or joints, as to make it capable of supporting a portion of the springs, while at the same time it is of such length as to allow the parts upon each side of it to be hinged to it, and connected to each other at two points on each side, at the distance apart of twice the thickness of the stuffing, as hereinafter more fully set forth." The first and second claims of the patent are as follows: "1. The combination of the two parts, A and A', and an intervening portion of the sides of the box of a box-spring mattress, having the cases containing the stuffing attached to the said sides, the said parts, A and A', and the intervening portion, being connected to each other by hinges, the joints of which are located twice the distance apart of the thickness of the stuffing, substantially as herein above set forth. 2. The combination of the two parts, A, A', hinged at two points the distance apart of twice the thickness of the stuffing, the intervening part, A'', and a series of springs supported upon slats, attached to the said intervening

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portion, A", the whole being constructed and operating substantially as herein above set forth."

The object of the improvement covered by the first claim is to enable a box spring mattress to be folded flatwise without material injury to the stuffing, which is mounted upon and connected with the box bottom containing the springs. The improvement consists in combining two parts of the sides of the box of the mattress with an intervening portion of such sides, by connecting them together by means of hinges, the joints of which are located twice the distance apart of the thickness of the stuffing, the cases containing the stuffing being attached as well to such two parts as to such intervening portion. The specification describes a division of the sides of the box at two points on each side.

The object of the improvement covered by the second claim is to make such intervening portion capable of supporting a portion of the springs, while, at the same time, it is of such length as to allow the parts upon each side of it to be hinged to it, and connected to each other at two points, on each side of the box, at the distance apart of twice the thickness of the stuffing. The improvement consists in combining such two parts of the box, hinged at two points the distance apart of twice the thickness of the stuffing, with such intervening part, and with a series of springs supported upon slats attached to such intervening part. This construction enables the parts of the box on each side of the intervening part to be folded over so as to become parallel with each other, the spring-box and the mattress mounted on the springs being folded over by the same movement.

There can be no doubt that the defendants have infringed both of these claims. Their mattresses are of a like construction in principle to the mattress of Kittle, differing only formally in this—that the defendants' box has each of its sides divided into five parts instead of three, each of the sides being divided at four points instead of two. The result is that the defendants' mattress has, in the middle of each side of the box, a long portion; on each side of such long portion, a very short part, corresponding with the intervening part in Kittle's mattress; and, at each end of the length of each side, another part. These end parts can be folded over so as to become parallel with the middle part of the box, and to be in the same plane with each other. When so folded, the de-

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defendants' mattress is, in effect, two of Kittle's mattresses combined into one. It embodies each one of the two improvements of Kittle covered by his first and second claims, and embodies each one twice, each of the improvements being applied at each end of the mattress. If cut into two, through the space between the end parts when folded, and through the center of the middle one of the five parts, two of Kittle's mattresses would be produced. There are the two outer parts, the intervening part, the box, the box spring mattress, the cases containing the stuffing attached to the three parts, the three parts connected to each other by hinges, the joints of the hinges located twice the distance apart of the thickness of the stuffing, and the series of springs supported upon slats attached to the intervening part; and all this in duplicate in each mattress—one of such arrangements at each end. The same result is attained by the arrangements, and in the same way as in the patent. In such mattresses of the defendants as contain the arrangements above mentioned, except in not having the cases containing the stuffing attached to the parts forming the sides of the box, the second claim of Kittle's patent is infringed. It may be that the defendants' mattresses contain a useful improvement beyond what is found in Kittle's patent. Whether they do or not is of no consequence here. They certainly embody what is patented by Kittle.

In addition to the defense of non-infringement, urged at the hearing, but not set up in the answer, the allegation of infringement made in the bill not being denied by the answer, the defendants attack the patent for want of novelty, various specifications in that regard being contained in the answer. Without going into a detailed discussion of the prior inventions set up, it is sufficient to say that none of them embody what is covered by either the first or the second claim of the Kittle patent. The three principally relied upon are what are known as the "Putnam bed," the "Colton folding bedstead and mattress," and the "Cincinnati bed." These are effectually disposed of by the testimony of the expert on the part of the plaintiffs, and there is no testimony in contradiction.

The defense really relied on, and which has caused the proofs in this case to be swollen to the bulk of some seven hundred printed pages, is a claim, on the part of the defendants, that what

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they have done in respect to their mattresses has been done under a right or license granted by Kittle under the inventions covered by the patent. The answer sets up, that, by a written instrument executed by Kittle and one Alexander D. Farrell, April 11, 1863, Farrell became interested in Kittle's invention, and in and to the patent subsequently issued for it, to the extent of one undivided half interest in and to all the counties in the State of New York, except those lying on or west of the Genesee river; that Farrell duly complied with all the conditions contained in said instrument requisite or necessary for the proper vesting of said interest in Farrell; that the defendants are selling folding-bed bottoms, and all of them are made by Farrell; and that, if they contain anything covered by Kittle's patent, they have been made and sold to the defendants under such license to Farrell, and Farrell has, by virtue of the interest referred to, such rights under Kittle's patent, that the defendants are justified in selling such bed bottoms, without thereby infringing Kittle's rights.

The instrument referred to bears date January 1, 1863, but was signed April 11, 1863. It recites that Kittle obtained a patent for a "rollable spring mattress," August 28, 1860; that he has recently invented a "folding box spring mattress," for which he is about to apply for a patent; and that Farrell is desirous of manufacturing the said mattresses in the city of New York, and of acquiring an interest in the last-named invention in the State of New York, when the same shall be patented. Then Kittle, "in consideration of the covenants and agreements" by Farrell, thereafter contained, "and of and during the true and faithful performance of each and every of them," grants permission to Farrell "to manufacture and sell the said rollable and folding spring mattresses in his factory in New York city, for the term of two years" from the date of the instrument, and agrees to pay Farrell "four dollars per month for the privilege of selling the said mattresses from samples of the different grades" described in the instrument (which Farrell is to expose for such purpose in his sales-room), and also for the attention of Farrell to making sales, taking orders, delivering goods, and collecting bills, during the absence of Kittle. Then Kittle "agrees further to assign an undivided one-half interest in and to all the counties in the State of New York (except those lying on or west of the Genesee river), for

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and to the right in the folding mattress, when the patent for the same shall be granted by the United States" to Kittle; and Kittle further agrees to pay to Farrell the price thereafter specified, as regards the grades and the time of payment; and Farrell, "in consideration of said license or permission and agreements, covenants and agrees on his part: 1. To proceed, without delay, to manufacture the above mattresses according to the patent improvements, plans, and directions" of Kittle, thereafter specified. 2. "To expose the several grades of mattresses" thereafter specified, "for the inspection of the public, in a convenient store or show-room, where he is to advertise the same by personal efforts, by cards, circulars, and through the newspapers, always representing the rollable mattress as the most economical and best mattress or bed that can be procured." 3. To furnish Kittle "office and desk room in his store or show-room, above specified, and for the monthly payment of four dollars, to allow the customers" of Kittle "to examine the different grades of beds at all regular business hours, and in the absence" of Kittle, "to attend to them as he would to his own customers, take their orders, and supply them promptly with any mattresses they may order, and make out and collect the bills, and keep an accurate account of the same" for Kittle. 4. "To keep an order-book, in which every order, as soon as received, shall be legibly entered, and the actual number of each mattress, as soon as finished, shall be regularly entered, and, when sold, to whom and where sold, and see that a corresponding number be entered on the label or patent mark, which shall be permanently affixed to each mattress when finished." 5. To pay Kittle "one dollar each for every rollable spring mattress he shall manufacture on his own account, and not" for Kittle "or his customers (every person who shall inquire" for Kittle, "or who may have previously negotiated for or bought mattresses of him), and to pay all necessary expenses of procuring a patent for the folding spring mattress, advancing the same as it shall be required in the progress of the case, thirty dollars of which is to be advanced before May 30, 1863." 6. "To promptly supply all the orders of Kittle" and his customers, at actual cost of the material and labor, and twelve per cent. profit, and three per cent. national tax added thereto, cartage and packing or boxing (if such there be) to be done at actual cost" for

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Kittle. "If the delivery is direct from the cart or store to the customer, payment is to be made within three days after delivery; but if out of town, or by second conveyance, then in ten days."

7. To allow Kittle, "or his known agent," free access to the aforesaid order-book and all its entries, as well as unobstructed access to all parts of the manufactory at all regular business hours."

8. "To make a full, accurate, and minute statement every week, of all the mattresses manufactured during the week then ending; their kind, and the actual number of each; to whom and where sold and delivered—such statement, together with all moneys due or belonging" to Kittle, and in the possession of Farrell, to be delivered to Kittle, and, in case he is out of town, to his wife, at his residence."

9. "To make all mattresses strictly in pursuance" of a schedule thereafter contained, "unless it shall be clearly impossible to retain custom or make the sale without deviation, and then to deviate no further in degree or number than is absolutely necessary for such case, and no such deviation is to be made a rule in any case or to any customer, except in case of special written directions by letter, which shall fully state the deviation and its extent, and to whom it applies," from Kittle.

10. The schedule referred to, covering rollable mattresses and folding spring mattresses, of various grades and sizes.

11. "To see to have the work done by the piece, and as advantageously as possible; and, if it is found that the cost therein can be reduced," Kittle "is to have the full benefit thereof on all made for him or his customers."

12. "In case the cash value of the material entering into the above mattresses shall rise or fall in the market, wholesale cash price, then such addition or reduction shall, in all cases, be made in making up the price" to Kittle, "for his and his customers' orders, before adding the provided per cent." to Farrell.

Lastly. "Not to sell any of the above grades of mattresses at lower prices" than Kittle "shall be in the habit of selling, nor to charge exorbitantly high prices for the rollable mattress above specified; but, in general, to conform, as near as possible, to the established or general prices" of Kittle, "and to seek uniformity of prices in the sale and introduction of said mattresses. Finally. Farrell "is to be at the risk of all the expenses arising in the prosecution of the case for a patent on the folding-spring mattresses

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aforesaid," and Kittle "is to use all diligence to hasten the issue of the same."

The defense set up under this agreement is not claimed under the provision thereof whereby Kittle, for the consideration specified, grants permission to Farrell to manufacture and sell the folding spring mattresses for the term of two years from the date of the agreement. That term expired before October 17, 1865, the date of the reissued patent. The defense alleged is that Farrell became, under the agreement, entitled to an undivided one-half interest in the patent for the folding mattress, for the territory in that respect specified in the agreement, which embraces the territory within which the infringement by the defendants is alleged by the bill to have taken place.

A voluminous mass of testimony has been taken on both sides, in regard to points of compliance and non-compliance by Farrell with the covenants and agreements specified in the contract, as to be each of them truly and faithfully performed by him, as the consideration of the agreement by Kittle to assign to him the specified interest in the invention and patent. But I shall not examine these in detail, as there is one view of the case which seems to me controlling in favor of the plaintiffs and against Farrell. The defendants have no greater rights than Farrell has. They justify under and through him. Consequently, if Farrell deliberately abandoned his rights under the agreement, so far, at least, as a claim to an interest in the folding-mattress patent was concerned, and made that abandonment directly to Kittle, with the acquiescence of Kittle, the defendants are without justification.

It was one of the stipulations on the part of Farrell, in the agreement, that he would pay all necessary expenses of procuring a patent for the folding-spring mattress, advancing the same as it should be required in the progress of the case; and, again, that he would be at the risk of all the expenses arising in the prosecution of the case for a patent on such mattress. The application for the patent appears to have been in readiness to be sent to the Patent Office on June 9, 1864. On that day, Kittle applied to Farrell to furnish him with the sum of \$15, as the fee to be paid at the Patent Office on filing the application. That amount was paid by Farrell to Kittle, for such purpose, on the 10th of June, and the application was filed. On the 22d of August, Kittle

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wrote to Farrell a letter complaining that Farrell neglected to perform any of his obligations set forth in the contract, and specifying some particulars. On the 27th of September, Kittle wrote to Farrell another letter, saying that he had not received for many weeks any of the benefits contemplated in the contract; that he had called upon Farrell frequently to perform his obligations as specified in the contract; that he had written to him in August, calling his attention to his overcharges and other violations of the contract, and that Farrell had since then repeatedly refused him his rights and privileges under the contract, and demanding of him immediate payment of a bill therewith presented, and an immediate statement in writing of all rollable and folding-spring mattresses included in the contract, and manufactured by Farrell since the last bill rendered to Kittle, and the payment of all moneys in Farrell's hands belonging to Kittle, which Farrell had collected on beds sold or delivered to customers of Kittle's, and access to the order-books for examination; and, as he alleged he had been refused access to the shop or manufactory, the removal of all restrictions to free access thereto, and a full, faithful, and immediate compliance on the part of Farrell with all provisions of the contract. The bill accompanying the letter contained various items of charges against Farrell, and, among others, one of \$15 for the first patent fee, under date of June 11th, and a credit, under date of June 10th, of \$15, as furnished by Farrell on Kittle's order, leaving the amount of the bill at \$180.31. The letters and the bill were presented to Farrell. The patent was granted November 8, 1864. On the 10th of November, the attorney for Kittle sent a letter to Farrell, advising him of the issuing of the patent, and notifying him that all privileges claimed by him under the agreement were forfeited by reason of the violation by him of the provisions of the agreement, and that he must not manufacture or sell any mattresses involving any invention for which Kittle held a patent, and demanding an immediate adjustment of the claim of Kittle for the previous use of his inventions. On the 2d of December, the attorney for Kittle wrote again to Farrell, requesting him to call upon the attorney in regard to the unsettled matters between him and Kittle. In pursuance of this request, Farrell had an interview with Kittle and the attorney, at which Kittle informed Farrell that he had forfeited his rights under the con-

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tract, by a failure to perform the contract on his part, and that he was infringing the folding box spring mattress patent, and must cease to manufacture folding box spring mattresses. At the same interview, Farréll produced and presented to Kittle, as a bill of the amount due by Kittle to Farrell at the time, a statement of items of debits and credits, in which statement there is charged by Farrell against Kittle, as an item of debit, \$15, as "advanced on patent." The amount claimed by Farrell, after deducting the items of credit to Kittle, was \$125.01. This item of \$15 was the sum of \$15 advanced by Farrell in June, 1864, for the fee on the patent. It is quite apparent, from what transpired between the parties, that both of them, in December, 1864, regarded the unsettled matters between them as consisting solely of their pecuniary transactions under the contract, and considered the contract at an end so far as any further action under it was concerned, except by way of remedy for the past, and understood that Farrell had acquired no right to any interest under the folding box spring mattress patent to Kittle. The charging in account, by Farrell to Kittle of the \$15, which he had previously advanced to Kittle toward the patent fee on the patent, and which sum it was for Farrell to pay absolutely, and not charge to Kittle, if Farrell was to acquire any interest under the patent, and the doing this after he knew that the patent had been issued, and after he had been informed by Kittle that he had forfeited all his rights under the agreement by having violated its provisions, and was infringing the patent, and must desist from its infringement, must be regarded as an acquiescence by him in the position taken by Kittle, and an abandonment of his claim to an interest in the patent, leaving him to his right of action against Kittle for any amount due to him on transactions under the agreement. Farrell had, in fact, as the evidence shows, failed, in many particulars, to perform his stipulations in the agreement, so as to entitle himself to the interest in the patent. He was conscious of this, and hence this clear act of acquiescence in the views of Kittle and this waiver of a claim to such interest. In the mass of testimony given by Farrell, covering one hundred and eighty printed pages and eight hundred and seventy-six questions and answers, no explanation is attempted to be made by him as to what he intended by making this charge against Kittle, other than a waiver of his claim to an

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interest in the patent; nor was any satisfactory view on the subject, founded on the evidence, suggested by the counsel for the defendants on the hearing. Indeed, the proof shows that, from a period as early, at least, as the date of the patent, the parties, by their mutual acts, regarded the agreement as at an end, at least so far as it could operate to vest in Farrell an interest in the patent.

There must be a decree for the plaintiffs for a perpetual injunction and an account of profits, with costs.

SAMUEL H. DOUGHTY*vs.*

THEODORE D. DAY AND GILBERT HORTON. IN EQUITY.

The letters patent for an "improvement in skirt hoops," granted to L. A. Osborn and I. J. Vincent, as assignees of Robert J. Mann, the inventor, June 22, 1858, are valid, so far as the second claim is concerned, namely, "Securing the hoop, *d*, to the perpendicular straps, by means of small clamps, constructed as herein described."

Although the specification states that the nature of the improvement which is the subject-matter of the second claim, consists in the peculiar manner of fastening the hoops "to the perpendicular straps, by means of a small clamp, the said clamp being made with teeth, or otherwise," yet, taking the drawings and the description together, no one would, from them, use clamps without teeth to fasten the hoops to the perpendicular straps.

Increasing the number of teeth, and adding another feature to the clamp, while it still has teeth which, after passing through the strap, are clinched, and embrace the hoop, is, nevertheless, an infringement of the said second claim.

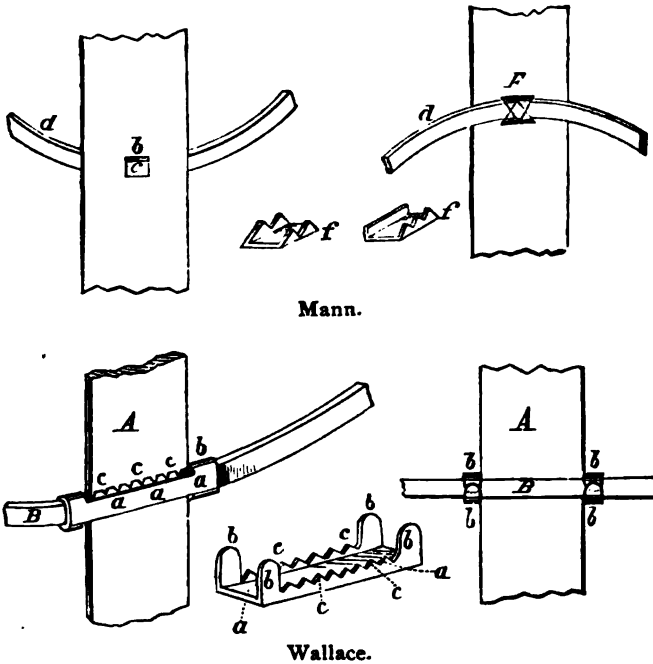
(Before BLATCHFORD, J., Southern District of New York, December, 1871.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for an "improvement in skirt hoops," granted June 22, 1858, to L. A. Osborn and I. J. Vincent, as assignees of the inventor, Robert J. Mann.

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The facts are sufficiently stated in the opinion, and will be readily understood by the reference to the accompanying engravings, one of which represents the Mann fastening, and the other that of Wallace. It will be seen that the teeth in the Mann clasp pass through the tape, and are clinched on the other side. Those of the Wallace clasp do not pass through the tape. The clasp used by defendants contained more teeth than that of Mann, resembling in this respect the Wallace clasp, but the teeth were larger, and penetrated the tape, and were clinched on the reverse side.



Stephen D. Law, for complainant.

John B. Staples, for defendants.

BLATCHFORD, J.

This suit is brought on letters patent granted to L. A. Osborn and I. J. Vincent, as assignees of Robert J. Mann, the inventor,

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June 22, 1858, for an "improvement in skirt hoops." The plaintiff is the owner of the patent, by assignment, for all of the United States, except the state of Rhode Island.

Only the second claim of the patent is involved in this suit, there being three claims in all. In regard to the subject matter of the second claim, the specification says that the nature of the improvement consists in the peculiar manner of fastening the hoops of ladies' skirts "to the perpendicular straps, by means of a small clamp, the said clamp being made with teeth, or otherwise." It also says that, having made fast the perpendicular straps to the waistband, by means of eyelets or sewing, and the hoops being stretched over a frame similar in shape to the skirt, when the straps and waistband are put on the frame, the straps being brought down over the hoops, it is only necessary to press the teeth of the clamp through the strap, and clinch the same on the inside, to secure the hoop firmly in its place; and that, by this manner of fastening the hoop, half the time is saved that would be occupied in sewing the hoops to the straps. There are nine figures of drawings. Figure 2 is a perspective view of a section of the hoop, *a*, and perpendicular supporting strap, *b*, and also showing the manner in which the said hoop is made fast to the strap, *b*. That manner, as the specification states, and as is shown in figure 3 of the drawings, is by means of a clamp with teeth, which pass through the strap, and are clinched on the inside, so as to embrace the hoop. The second claim is in these words: "Securing the hoop, *a*, to the perpendicular straps, by means of small clamps, constructed as herein described."

Criticism is made by the defendants on the fact that the specification, in stating the nature of the improvement, says that the clamp, which fastens the hoops to the perpendicular straps, is to be made with teeth, or otherwise; and that it is impossible to so fasten them unless the clamps have teeth. But the drawings and description must all be taken together; and, so viewing them, it is apparent that no person would or could, from them, use clamps without teeth to fasten the hoops to the perpendicular straps. A clamp is shown without teeth, also one with teeth on one side of it, and another with teeth on both sides of it. The clamp with teeth on one side of it is manifestly for use on the lower hoop of the skirt, where the perpendicular straps terminate, and where

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teeth are necessary only on the upper side of that hoop, there being no strap below that hoop for any teeth to penetrate. The clamp with teeth on both sides of it is for use at the junction of the other hoops with the straps, where the straps extend both above and below the hoop. The clamp without teeth is stated to be for the purpose of fastening extra hoops to the two upper circular hoops on the back of the skirt, so as to form a corrugated bustle. There is no difficulty in construing the second claim in accordance with what appears to have been the actual invention, that is, securing the hoops to the perpendicular straps, by means of small clamps, constructed with teeth on both sides or on one side, accordingly as the clamps are used on the lower hoop or on the other hoops, as shown in the description and drawings, the teeth passing through the strap and being clinched on the inside, so as to embrace the hoop.

The drawings of the plaintiff's patent show clamps which, where the teeth are on each side, have two teeth on each side; and, where the teeth are on only one side, have three teeth on that side. The defendants, in their clamps, have increased the number of teeth to four on each side, where there are teeth on each side, and to four where there are teeth on only one side. The teeth, after passing through the strap, are clinched, and embrace the hoop. The clamps also have projections above and below, at each end of their length, which are clinched around the hoop, without passing, as teeth, through the strap. There can be no doubt that this arrangement is an infringement of the second claim of the plaintiff's patent. Increasing the number of teeth which pass through the strap and are clinched, does not avoid infringement; nor does the addition of the clinched projections avoid it. The use of teeth on the clamp, passing through the strap, and clinched around the hoop, is the essence of the invention, the teeth, when they pass through the strap, being at right angles to the plate of the clamp, and being, when clinched to their final position, in a plane parallel with such plate. The words, "constructed as herein described," in the claim, mean arranged as described when in final position, securing the hoop to the strap.

In this view, the letters patent to David Holmes, granted June 15, 1858, and the letters patent to Thomas Wallace, Jr., granted

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June 15, 1858, contain nothing in conflict with the invention of Mann, even if the invention shown in those patents antedated Mann's invention. The patent to Holmes shows a clamp which has no teeth penetrating the strap and then clinched around the hoop. The patent to Wallace shows a clamp which, before it is applied, is, in substance, the same in shape and construction as the defendants' clamp, except as to the size and number of the teeth. But the specification of the patent describes the projections, above and below, at each end of the length of the clamp, as bent over the hoop outside of the tape or strap, on each side of its width, and closed tightly on the hoop, and securing the clamp firmly to the hoop, while the teeth, penetrating the tape or strap, secure the latter. The teeth, although they penetrate the tape, are not clinched around the hoop. The specification states that the space in the length of the clamp occupied by the teeth is equal to the width of the tape forming the strap, and that the teeth are sharp, and that the part of the plate of the clamp from which the teeth project is of a width a little greater than the width of the hoop, and that the projections at the ends and the teeth are turned up at right angles to the face of the clamp, so as to leave a space of a width to receive the hoop. The drawings show three views of the teeth, two of which show twelve teeth on each side, and the other shows sixteen teeth on each side. There is nothing in the description or drawings to indicate that the teeth were to be clinched after penetrating the tape. The smallness of the teeth, their number, their proportion in size to the size of the clinched projections, and the general arrangement of the clamp when in final position, show that no clinching of the teeth, after penetration, was intended; and it is very doubtful whether such and so many teeth as are shown could be clinched with any advantage or effect, much less with any compared with the expense and trouble, or whether the clinching of penetrating teeth on a clamp, to secure the hoop to the tape, would be suggested to any one by seeing the teeth on the clamp of Wallace. Independently of this, Wallace is not shown to antedate Mann. The specification accompanying Wallace's application for his patent is sworn to May 13, 1858. The date of Mann's invention is carried back by the evidence to as early at least as May 1, 1858.

The oral testimony as to prior inventions satisfactorily shows

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nothing which anticipates Mann's invention. What Joseph Thomas did was a mere experiment, which came to nothing. This is also true of all that David Holmes did, except what is contained in his patent, before considered.

As to the various clasps or clamps testified to by Antoine Schlumpf and Theodore Schmidt, as having been made, used, and sold by Schmidt, neither the first form nor the second form, if they were prior to Mann's invention, were the same thing as that invention. The first form had no teeth. The second form was like the clamp in Wallace's patent. Schlumpf says it was useless, because it cut the tapes; and, undoubtedly, Wallace's clamp was, for the same reason, useless. As to the third form testified to by Schlumpf and Schmidt, called the spangle, with one tooth on each side, the evidence does not establish with that degree of certainty which is necessary, that it anticipated Mann. Independently of the material contradictions between Schlumpf and Schmidt, the evidence on the part of the defendants is preponderating to show that no skirts with spangles were made by Schmidt prior to Mann's invention. This view is strongly corroborated by the fact that the most extensive hoop-skirt dealers knew of no skirts with clamps having teeth which penetrated the tapes and were clinched around the hoops on the other side, until they saw the clamp of Mann, and that they took licenses to manufacture under the plaintiff's patent in 1859. The case is entirely free from doubt, and there must be a decree for the plaintiff, as to the second claim of the patent, for a perpetual injunction and an account of profits, with costs.

Young v. Lippman.

ALEXANDER K. YOUNG

vs.

PHILIP LIPPMAN AND CLARA SELIGMAN. IN EQUITY.

The claim of the letters patent for an "improvement in springs for hoop-skirts," granted to Thomas B. De Forest and Thomas S. Gilbert, February 18, 1868, namely, "A skirt-hoop, formed by inclosing one or more wires within a covering, which not only envelopes and protects the wire, but forms an edge, A, or connection, B, substantially as and for the purposes specified," is a claim to such a skirt-hoop as is described as an article of manufacture—a skirt-hoop capable of use in making what is known as a hoop-skirt.

The invention in the patent is limited to a skirt-wire made by folding the fabric over one or more wires, and securing it by sizing or glue and pressure, so as to thus inclose the wire or wires in a covering, and leave an edge of the fabric on the one wire, or a connection, formed by the fabric, between the two wires, so as to admit of attaching the skirt-wire to vertical tapes, in making a hoop-skirt.

The securing the fabric by gluing it, or using other equivalent adhesive substance, in contradistinction to securing the fabric, to form the inclosure, by weaving around the wires, or weaving pockets, in which to insert the wires, being cheaper, and an improvement in the trade, and useful, is, if new, patentable, the resulting fabric being a different article from one formed by weaving.

An article of dress, called a bustle, containing wire hoops, each of which is a skirt-hoop, formed by inclosing, by means of glue or sizing and pressure, two wires within a covering, which not only envelopes and protects the wires, but forms a connection between them, so that, while the wires are confined to their proper places within the covering, the wire-hoop or spring has the appearance of being made from a much broader wire than it in reality is, and may be secured to the vertical tape by means of a metallic fastening passing through the vertical tape and the material covering the spring, is, substantially, a hoop-skirt of a diminished size, and the making and selling of such bustles is an infringement of said patent.

The ownership of a right to manufacture covered wire for springs for skirts, under a patent granted to John T. Loft, March 13, 1860, for an

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"improved machine for covering the springs of skeleton skirts," confers no right, as against the De Forest and Gilbert patent, to make, under the Loft patent, the covered wire contained in such bustle.

Although such covered wire may be made by means of the machinery described in the Loft patent, no such wire or skirt-hoop is described or shown in the Loft patent, nor is the apparatus of that patent one which necessarily produces nothing else but such wire or skirt-hoop.

In opposition to a motion for an injunction, a general allegation, by affidavit, on information and belief that the thing patented existed before, without disclosing the particulars of the information leading to the belief, is insufficient.

The fact that the plaintiff is infringing the Loft patent, by using the Loft apparatus to make skirt-hoops, is no ground for refusing an injunction against the defendant, restraining him from infringing the plaintiff's patent.

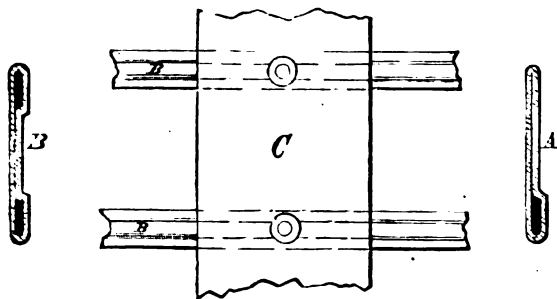
A separate affidavit, by the plaintiff, of his belief that the patentees were the original and first inventors of the thing patented, dispensed with, the bill having in it such an averment, and having been sworn to eleven days before it was filed and notice of application on it for the injunction was given.

A provisional injunction was dissolved, on evidence showing the prior existence, in the United States, of the skirt-wire of the patent, specimens of the thing known before being produced.

(Before BLATCHFORD, J., Southern District of New York, January, 1872.)

MOTION for provisional injunction.

Suit brought upon letters patent for an "improvement in springs for hoop-skirts," granted to Thomas B. De Forest and Thomas S. Gilbert, February 18, 1868, and assigned to complainant.



The nature of the invention is sufficiently stated in the opinion, and is further illustrated in the accompanying engraving, in which

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the black portions of the two side figures represent the flat wire, and the shaded portions the folded fabric. These views are greatly enlarged, the middle figure representing two of the complete springs applied to a portion of one of the tapes.

Edward N. Dickerson, for complainant.

John B. Staples, for defendants.

BLATCHFORD, J.

This is a motion for a provisional injunction, founded on letters patent granted February 18, 1868, to Thomas B. De Forest and Thomas S. Gilbert, for an "improvement in springs for hoop-skirts," and now owned by the plaintiff. The specification states that the inventors have invented "a new improvement in the manufacture of hoop-skirts." There are three figures of drawings annexed to the specification. Figure 1 is a front view of one of the vertical tapes, with three springs attached. Figure 2 is a section of one of the springs, enlarged. Figure 3 is a like section, of a different construction. The specification says: "This invention relates to an improvement in the manufacture of springs attached to vertical tapes, and well known as hoop-skirts, the object being to produce a lighter and cheaper skirt than has heretofore been done; and the invention consists in inclosing one or more flat elastic wires in a covering, the said covering being, when sized, folded, and pressed, of greater width than the spring, so that, while it confines the spring to its proper position within the covering, it gives to the spring the appearance of being made from a much broader wire than it in reality is, and admits of securing the spring to the vertical tape by means of a metallic fastening passing through both the vertical tape and the material covering the spring. * * * In figure 2 we represent the spring as two flat wires inclosed within the same covering, the wires being denoted in black. Various devices may be employed in covering the two wires. One, and, we think, practically, the best, is to take a narrow strip of fabric, sufficient in width to surround the two wires, and form the space between the two. Then the two wires, with the fabric, are drawn through an apparatus prepared for the purpose, the fabric being sized with

any adhesive material, and the wires sustained equidistant from each other, the apparatus folding the fabric over the wires, and pressing it down into the space between, the sizing being sufficient, or, other sizing being added, so that, when thoroughly dried, the wires will be sustained at their given distances from each other, one wire at each edge of the folded fabric. The wires may be very light, and the fabric equally light, and, when completed, the article has the appearance of a broad spring. Instead of the two springs, as seen in figure 2, a single spring may be inserted, as in figure 3, and the fabric guided and folded so as to leave an edge, A, of fabric upon the spring, as denoted in said figure 3. This folded edge, being sized and pressed, secures the wire in its position in like manner as first described, and gives the like appearance of a broad spring, the sizing in all cases being sufficient to sustain that portion of the fabric at the edge of the wire, or between the wires; or, if preferred, and to give more material at the edge, a single spring may be inserted at one edge and a cord at the other edge. To construct a skirt from springs thus formed, pass the springs, B, through the pocket in the vertical tape, C, in the usual manner; then insert an eyelet, or other suitable metallic fastening, through the vertical tape, and through the fabric of the covering of the spring, as denoted in figure 1, and this may be done on the former, and the same means which secure the springs in the vertical tape may also lock the two ends of the spring within the pocket of the tape. A skirt constructed in this manner has every appearance of a strong spring, but is much lighter than the ordinary skirts, as the wire employed for the spring may be much lighter than that used in the ordinary manner, and the manner of attaching the parts together is of the strongest possible character. Other wires may be added to increase the width, but forming a space in like manner between each two. We do not wish to be understood as broadly claiming the introduction of two or more springs into a fabric, as such is not new; but, in cases when it has been done, the fabric has been first formed into pockets for the reception of the springs, and the springs themselves covered separately and independent of the said pockets. This arrangement is seen in several well-known patents for the whole or lower portions of a skirt. It will be observed that we do not in any way form a pocket in the fabric, the covering being simply

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a folded fabric, the folds being secured by strong sizing and pressed hard together." The claim is in these words: "A skirt-hoop, formed by inclosing one or more wires within a covering, which not only envelopes and protects the wire, but forms an edge, A, or connection, B, substantially as and for the purposes specified."

The allegation of infringement in the bill is that the defendants are making and selling springs for hoop-skirts precisely the same as those described in the plaintiff's patent. The evidence of infringement is that the defendants have sold an article of dress called a bustle, containing hoop-skirt wire made substantially in the manner described in the patent, and that the defendant, Lippmann, has been vending such hoop-skirt wire. The making and selling of the bustle is not denied, and a specimen is produced, which contains wire hoops made in the manner described in the patent. Each hoop, in fact, is a skirt-hoop, formed by inclosing, by means of glue or sizing and pressure, two wires within a covering, which not only envelopes and protects the wires, but forms a connection between them, substantially as and for the purposes set forth in the specification of the plaintiff's patent.

There can be no doubt that the claim of the patent is for such a hoop-skirt as is described, as an article of manufacture—a skirt-hoop capable of use in making what is known as a hoop-skirt. The bustle referred to is substantially a hoop-skirt, of a diminished size.

The defendants set up, in defense, that the defendant, Lippman, is the owner of the right to manufacture covered wire for springs for skirts, under letters patent granted to John T. Loft, March 13, 1860, for an "improved machine for covering the springs of skeleton skirts," and that he is making, under that patent, covered wire such as is contained in the bustle referred to. The specification of the Loft patent describes a machine for covering, in a continuous manner, the springs for hoop-skirts with any textile or other suitable fabric, the invention consisting in the use of glue or cement, distributing rollers, cutters, guides, folders, and drawing and pressure rollers, substantially as described in such specification, whereby the desired end is attained. The machine is intended to take the place of machines for weaving or braiding the covering around the wires of which the hoops are made. It

describes and claims the covering of wires or springs for hoop-skirts, by passing the same, in connection with strips or covers of suitable fabric, having a suitable glue, cement, or adhesive substance applied to them, through folders and between drawing and pressure rollers, arranged to operate substantially as and for the purpose set forth. There is no description or representation of any such skirt-hoop as the plaintiff's. The only wire or skirt-hoop shown or described is one in which the fabric merely incloses or covers the wire, so as to envelop and protect it, and does not, as in the plaintiff's hoop, also form an edge to a single wire, or a connection between two wires, for the purpose shown in the plaintiff's specification. There is no suggestion in the Loft specification of the construction of such an article as the plaintiff's skirt-hoop. It may very well be that the Loft machine is capable, either with or without modification, of being used to manufacture the plaintiff's skirt-hoop. The specification of the plaintiff's patent speaks of making his skirt-hoop by drawing it through a proper apparatus; but the mere fact of the prior existence of such apparatus shows no want of novelty in the invention covered by such patent. The novelty of such invention would not have been affected even if the plaintiff's patent had stated that the new skirt-hoop was to be made by the use of the Loft apparatus. Such apparatus is not one which necessarily produces nothing else but the plaintiff's skirt-hoop. This is shown by the fact that, as described and represented in the Loft patent, it does not produce the plaintiff's skirt-hoop, or anything having its characteristics.

The defendant, Lippman, in an affidavit, states that he is informed and believes that, long before the date of the plaintiff's patent, and before the alleged invention of De Forest and Gilbert, covered wire, with spaces of the covering fabric between or on the outside of the wire, was known and used publicly for various purposes, and was an article well known and used and sold. This general allegation, on information and belief, amounts to nothing. If the defendant has any information to the effect stated, sufficient to warrant a belief in the truth of what is stated, he is bound to disclose it for the judgment of the court, if it is to be of any avail to him. He can not swear to the conclusion and withhold the particulars of the information.

The fact that the plaintiff does not or can not make his hoop

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without using the apparatus covered by the Loft patent, as is urged, can not affect the questions involved in this motion. It may be that the plaintiff is infringing the Loft patent, while the defendants are infringing the plaintiff's patent, and that neither can make the plaintiff's hoop without using what is covered by both of the patents. But the case of each must be treated separately, on its merits, when presented.

It is objected that the application for the injunction is not accompanied by an affidavit of the plaintiff that he believes that De Forest and Gilbert were the original and first inventors of the thing patented. The bill, however, which was sworn to November 13, 1871, and filed November 24, avers that De Forest and Gilbert were the first and original inventors of the improvement for which the patent was issued. On the filing of the bill, notice of the application, founded on the bill, for the injunction, was given for the 2d of December. Under such circumstances, no separate affidavit is necessary. *Sullivan v. Redfield*, 1 Paine, 441.

An injunction must be granted, as prayed for in the bill.

IN March, 1872, a motion was made to dissolve the injunction, on matters not presented on the original motion.

Edward N. Dickerson, for complainant.

John B. Staples, for defendants.

BLATCHFORD, J.

I do not regard anything adduced by the defendants against the novelty of the invention covered by the plaintiff's patent, as of any importance, except the skirt-wires brought from England by Marcus Berliner, in 1865. The invention in the patent is limited to a skirt-wire made by folding the fabric over one or more wires, and securing it by sizing or glue and pressure, so as to inclose the wire or wires in a covering, and leave an edge of the fabric on the one wire, or a connection formed by the fabric between two wires, so as to admit of attaching the skirt-wire to vertical tapes, in making a hoop-skirt. This securing the fabric by gluing it, or using other equivalent adhesive substance, is in contradistinction

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to securing the fabric, to form the inclosure, by weaving around the wires, or weaving pockets, in which to insert the wires. It is in evidence that the manufacture by folding and gluing is cheaper than by weaving. It is an improvement in the trade, and useful, and, if new, patentable. The resulting fabric is a different article from one formed by weaving.

The article brought from England by Berliner, in 1865, if his affidavit is true, and not a fabrication, and if the specimens which he produces, as the identical articles he brought from England in 1865, are not fabricated for this occasion, is the same thing as the skirt-wire of the patent, made of a folded fabric, glued and pressed over two or more wires, and with the connection of fabric between two wires. If his affidavit and these specimens had been presented on the original motion for injunction, I should not have deemed it proper to grant the injunction; and I think they must now avail to throw such doubt over the question of the novelty of the invention as to entitle the defendants to have the injunction dissolved, leaving it to the plaintiff to proceed to proofs for final hearing.

JULES JURGENSEN*vs.*

ELISE MAGNIN AND OTHERS. IN EQUITY.

The claims of the reissued letters patent for an "improvement in stem-setting watches," granted to Jules Jurgensen, April 11, 1871, namely:

"1. A stem-setting watch, so constructed that the setting mechanism is thrown into gear by turning down the pendent ring or bow, when the front cap or case is open, substantially as shown and described;
2. The combination of the cap or guard, E, with the pendent bow, C, and hand-setting mechanism, whereby the said cap, while closed, is made to prevent the bow from throwing the hand-setting mechanism in gear, substantially as shown and described," are infringed by watches constructed in accordance with the description contained in letters patent granted to V. J. Magnin, Guedin & Co., as assignees of James Nardin, August 17, 1869, for an "improvement in stem-winding watches."

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Before the plaintiff's invention, no projection on the bow or pendent ring of a watch had been used, through the turning down of such bow, to actuate a slide, to throw into gear the hand-turning wheels, and the slide had never been placed within reach of any such projection; and the plaintiff was the first to dispense at once with the projection of the slide outside of the case, and with the necessity for locking it by a pin, by putting it within the closed cover, and making it impossible for the projection on the bow to move it with the cover closed.

The defendant's arrangement infringes, because the slide does not project outside of the case, and is within the cover, when the cover is closed, so as to be thereby protected from accidental contact with anything; and because the slide is so placed, relatively to one of the collars on the bow, that, when the cover is open, and the bow is turned over, the collar will press on the slide, to effect the gearing with the hand-turning wheels.

In both, if the bow is turned down, when the cover is open, a projection on the bow presses against a slide, which bears against a spring, through the compression of which the gearing is effected with the hand-turning wheels, by the sliding motion imparted to a toothed wheel on the winding-stem; and, in both, when the cover is shut, such gearing can not be effected, even accidentally.

It makes no difference that there is in the plaintiff's arrangement a larger quantity of mechanism, and that the plaintiff places the slide and the projection to move it within the stem, while the defendant places them outside of the stem; and that the defendant can still move his slide by hand, when the cover is open, and the plaintiff can not so move his.

(Before BLATCHFORD, J., Southern District of New York, January, 1872.)

MOTION for provisional injunction.

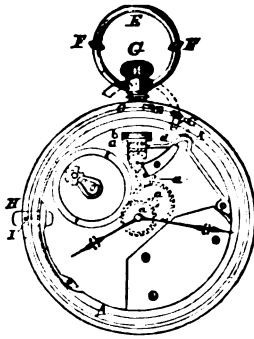
Suit brought upon letters patent for an "improvement in stem-setting watches," granted to complainant, January 15, 1867, and reissued April 11, 1871.

The nature of the invention and the claims are fully set forth in the opinion of the court.

In the accompanying engraving of the complainant's watch, the eccentric pin or projection on the ring is indicated by the letter S; immediately below it and to the left of the shaft of the spindle, D, is seen the sliding-rod, which, when forced inward by the pin, S, presses down the spring, *i*, and thus, through the intermediate mechanism, causes the contrate wheel, *c*, to engage with the pinion, *d*, and through it with the hands of the watch.



Complainant's.



Defendants'.

In the engraving of defendants' watch, the beveled projection, F, on the ring, when turned down, presses the pin or sliding-rod, shown by dotted lines at C (called B in the specification), against the spring, *d*, and so throws the spindle into gear with the hands, through the intermediate mechanism.

Thomas C. Buckley, for complainant.

Keller & Blake, for defendants.

BLATCHFORD, J.

This is a motion for a provisional injunction, founded on re-issued letters patent, granted to the plaintiff, April 11, 1871, for an "improvement in stem-setting watches," on the surrender of original letters patent granted to him January 15, 1867. The specification says: "The nature of my invention consists in so constructing the rotating device and the bow or pendent ring, and so arranging them with relation to each other that, by turning down the bow, the rotating device is thrown into gear with the mechanism which operates the hands. In stem-setting watches, as previously constructed, it has been usual, in addition to the stem-turning gear, whereby the hands are adjusted or set forward or backward, as required, to employ a pin or spring, arranged to protrude from the case, and requiring a separate application of pressure or force, say by the thumb or finger, before and while turning the rotating device at the stem, for the purpose of locking

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said rotating device with the cannon or minute-hand-operating pinion of the watch. This, however, is very objectionable, not only on account of the double manipulation requisite to set the hands, but also on account of the liability to accidental and improper adjustment of them by some casual outside contact with and action on the stem-gearing pin or spring, and turning of the attachment that is used for setting the hands. The difficulties referred to are obviated in my invention by making automatic, consequent on the adjustment of the pendent bow of the stem, when the cap, or a portion of the case only, is open, the gearing of the rotating device at the stem with the cannon-pinion of the watch, the pendent bow controlling the action of the rotating device." The specification then describes the new mechanism. The bow or pendent ring, C, is divided, where it is hung in the stem, so as to admit of a spindle passing up through the stem. The spindle is provided with a milled-cap or rose-head on its exterior end, to facilitate the turning of it by the fingers, in setting the hands of the watch; and, passing through the rim into the body of the case, and supported by suitable bearings, it carries, near its opposite or inner end, a clutch, the inner face of which is made to form, or has attached to it, a contrate wheel. The clutch is made to turn with the spindle, and also to slide longitudinally on it, for the purpose of throwing the spindle, by the contrate wheel, in or out of gear with a pinion, that meshes, through a train of spur-wheels or pinions, with the cannon-pinion of the watch. On one end of the bow or pendent ring, C, where it enters the stem, is an eccentric pin or projection, which is so pitched in relation to a sliding-rod or pin passing from the stem into the body of the case that, when the bow is extended, it is out of gear or contact with the sliding-rod, and remains so even when the bow is turned down on the closed cap or case, E, or other stop or guard to it; but, on opening or removing the guard, say opening the cap, or case, E, to see the position of the hands, and the amount of adjustment necessary to be given to them; then, on turning the bow, C, yet further down, which the removal of the stop or guard, or the opening of the cap or case, E, admits of, the eccentric pin is brought to bear on and press inward the sliding-pin, which touches and compresses a spring extending partly around the rim on the inside of the case. This spring has a tendency to keep pressed

outward the sliding-pin, which, when forced inward by the action of the eccentric pin connected with the bow, C, compresses the spring, and causes it to bear on, and drive inward, a branch or arm of a spring-clutch lever, said branch or arm working through a suitable guiding cavity or aperture in a fixed bracket or plate, and the free end of such spring-clutch lever being forked to fit the clutch on the inner end of the spindle which passes through the stem. The spring-clutch lever being forced inward or compressed, it being of a spring or elastic character at its attachment to the case, causes the clutch on the spindle to slide inward, and with it the contrate wheel, which is accordingly thrown into gear with the train of pinions actuating the cannon-pinion, so that, by turning the milled-cap of the spindle to the right or to the left, the hands of the watch are set forward or backward, as required. On again throwing back, or extending, or commencing to lift the bow, C, the eccentric pin is released from pressure on the sliding-rod, such rod is thrown outward by the spring on which it bears, while the spring-clutch lever, on being relieved from the action of such spring, also shoots back and draws with it the clutch on the inner end of the spindle, which detaches the contrate wheel from being in gear with the train of pinions actuating the cannon-pinion, so that the turning of the milled-cap and the spindle will have no effect on the setting mechanism of the watch; and the closing of the cap or case, E, or putting into action the stop or guard, secures or locks the setting mechanism out of gear, without regard to the position of the bow, which may then be either closed or extended. As the pendent bow, C, can operate upon the setting mechanism only when the cap or case, E, is open, or the stop or guard is not in action, the parts can not be accidentally thrown into gear when the cap or case, E, is not open, or the stop or guard is in action. The claims are as follows: "1. A stem-setting watch, so constructed that the setting mechanism is thrown into gear by turning down the pendent ring or bow when the front cap or case, E, is open, substantially as shown and described. 2. The combination of the cap or guard, E, with the pendent bow, C, and hand-setting mechanism, whereby the said cap, while closed, is made to prevent the bow from

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throwing the hand-setting mechanism in gear, substantially as shown and described."

The defendants are engaged in selling watches made in Switzerland by James Nardin, of Locle, Switzerland. The mechanism in such watches, which is alleged to infringe the plaintiff's patent, is constructed in accordance with the description contained in letters patent granted to the defendants, under the name of V. J. Magnin, Guédin & Co., of New York, as assignees of said Nardin, as the inventor, August 17, 1869, for an "improvement in stem-winding watches." The specification of the defendants' patent, so far as it relates to anything involved in this suit, says, that Nardin's invention relates to improvements in stem-winding watches, and has for its object to arrange the slide by which the winding device is changed to gear with the hands, so that it may be better protected against being moved by the accidental contact of the slide against anything when the watch is in the pocket, or other use; and that his invention also comprises an improved mode of operating such slide, to gear the winding-stem with the hands, for turning them. It further says: "Stem-winding watches are now commonly arranged for adjusting the hands by the winding-stem, the toothed wheel thereon being arranged to slide out of gear with the winding-gear, and into gear with wheels gearing with the hands, a spring, moved by a slide, projecting through the case, to be pressed by the thumb, to effect the said change, the spring restoring the connection with the winding-gear when the thumb is removed. This thumb-piece, projecting outside of the case, is liable to be inadvertently moved, and to catch in the clothing, etc. Pins, projecting from the cover, have been used to take into holes in these slides, to lock them, but this arrangement is objectionable. I propose, instead of having this slide, B, project through the case, to arrange it so as to project only through the bezel, A, which holds the glass, and above or into the wall, C, of the case, where it is equally or nearly as accessible for pressing into gear with the hands as when projecting outside, and where it is protected from accidental contact with anything to move it, by the cover, D, when closed. I have also so arranged this slide or thumb-piece, relatively to the bow, E, and one of the collars, F, thereon, commonly used to prevent the entanglement of the vest-chain with the milled-head,

G, of the winding-stem, that, when the bow is turned over, in the position shown in red, the collar, F, will press upon the slide, B, and force it inward, to effect the gearing with the hand-turning wheels." There is a sliding wheel on the shaft of the winding-stem, which is moved into and out of gear with the hand-turning wheels, by a spring-arm, to which the slide, B, is connected." The specification also says: "I am aware that watches are in use, provided with bows, on one end of which is formed an eccentric projection, for operating a sliding pin for compressing a spring-clutch lever, which bears a crown-wheel or pinion into contact with the train of wheels for setting the hands, but such do not pertain to my invention." The two claims of this patent which concern the present question are these: "1. The arrangement of the slide, B, relatively to the bezel, A, cover, D, and the part, K, of the case, substantially as specified; 2. The arrangement of the slide, B, with the case, and the bow, E, having the collar, F, substantially as specified."

The specification of the defendants' patent manifestly refers to the plaintiff's invention, where it speaks of watches with bows, on one end of which is an eccentric projection, etc. It also speaks of the prior arrangement of a slide, projecting through the case, pressed by the thumb to move a spring, which causes a toothed wheel to slide into gear with the hand-gearing wheels, and condemns such arrangement of the thumb-piece, even when locked by a pin projecting from the cover. It proposes, as a novelty, to have the slide not project outside of the case, and to have it within the cover, when the cover is closed, so as to be thereby protected from being moved by accidental contact with anything. It proposes, as a further novelty, so to place the slide, relatively to one of the collars on the bow, that when the cover is open, and the bow is turned over, the collar will press on the slide, to effect the gearing with the hand-turning wheels. It is impossible to distinguish this arrangement, as a mechanical structure, in respect to the plaintiff's invention and the claims of his patent, from the arrangement of the plaintiff. In both, if the bow is turned down, when the cover is open, a projection on the bow presses against a slide, which bears against a spring, through the compression of which the gearing is effected with the hand-turning wheels, by the sliding motion imparted to a toothed wheel on the shaft of

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the winding stem. In both, when the cover is shut, such gearing can not be effected, even accidentally. There is, in the plaintiff's arrangement, a larger quantity of mechanism, but it is impossible not to see that Nardin has appropriated, and taken directly from the plaintiff's arrangement, all that constitutes its essence and merit. Starting with the projecting slide moved by the hand solely, and liable to be moved accidentally, the plaintiff placed the slide in such position that a projection on the bow would move it by turning the bow down, and interposed the closed cover of the watch as a guard against an accidental movement of it. The plaintiff, indeed, placed the slide and the projection to move it, both of them, within the stem. The defendants' arrangement places them outside of the stem. But this difference is not of the essence of the plaintiff's invention. True, the collars on the bow were old, and the slide and its connections with the hand-turning wheels, out of reach of being moved by the turning down of the bow, were old, and the locking of the slide by a pin on the cover of the case was old. But, before the plaintiff's invention, no projection on the bow had been used, through the turning down of the bow, to actuate the slide, and the slide had never been placed within reach of any such projection, and the plaintiff was the first to dispense at once with the projection of the slide, and with the necessity for locking it by a pin, by putting it within the closed cover, and making it impossible for the projection on the bow to move it with the cover closed. The defendants can, indeed, move their slide by the hand, when the cover is open, and the plaintiff can not so move his. But the defendants' is none the less movable by the projection on the bow.

Entertaining no doubt as to the infringement, I must grant the injunction.

THOMAS CLARK, JR., TRUSTEE OF W. U. DUDLEY AND
LAWRENCE W. CLARK, AND THE SAID W. U. DUD-
LEY, AND THE SAID LAWRENCE W. CLARK

vs.

GEORGE A. SCOTT, AGENT OF THE FLORENCE MANU-
FACTURING COMPANY. IN EQUITY.

The letters patent for an "improved hand-mirror," granted to W. U. Dudley and Lawrence W. Clark, as assignees of W. U. Dudley, the inventor, July 27, 1869, are invalid.

The claim of said patent, namely, "A hand or portable-toilet mirror, constructed, substantially as described, of a base-piece, B, with its handle-extension piece or stiffener, C, glass, A, and outer back and handle, D, made of any suitable composition or cement, substantially as specified," covers a hand-mirror made of a cement applied in a plastic state and afterward hardened, and which has in it two flat wires or strengtheners, made of metal, imbedded in the cement and concealed from view, and running from the body of the mirror part through the neck and into the handle, and serving to stiffen and strengthen the article, particularly at the junction of the handle with the body.

The brush described in letters patent for an "improved brush," granted to J. S. Parsons and George A. Scott, as assignees of Alanson C. Eastabrook, June 19, 1866, namely, a brush in which the bristles, inserted through a perforated plate, are imbedded and held firmly in a suitable cement, which cement, at the same time, in combination with the plate, and an extension of the plate into the handle, forms the back and handle of the brush, is not, as a structure, substantially the same thing as the hand-mirror covered by the patent to Dudley and Clark.

Such hand-mirror, as an article of manufacture, was patentable, as distinguished from a brush, even though the backs and handles of the two were made in the same way, there having been a point of utility and adaptability in applying the non-warping property of the back and handle to rendering the glass of the mirror free from liability to fracture, which constituted sufficient invention to support a patent for a mirror, even though a brush with a like back and handle had existed before.

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Dudley, at the time he applied, in August, 1866, for a patent for the hand-mirror, also applied, as inventor, for a patent for an "improvement in brushes," with this claim, namely, "A brush, in which the bristles are inserted through a perforated plate or holder, imbedded in a composition or cement of any suitable substance, as described, which cement shall, in combination with a base-piece and stiffener of metal, or other material, form the back and handle of the brush, substantially as specified." Both of the applications were rejected. In December, 1866, he assigned to a corporation, who were the real defendants in this suit, all his inventions "in the manufacture of composition brush-backs and handles, with suitable strengtheners," and all applications for a patent "therefor," and certain apparatus used by him "in said manufacture," with all his useful information "for making and selling said composition-brush backs and handles," "meaning hereby to transfer" all his rights "to the manufacture and sale of said composition brush-backs and handles." The applications for both of the patents were pending at that time: *Held*, that the assignment was one only of the invention of the brush, and of the application for the brush patent, and did not carry a right to the invention of the hand-mirror.

Dudley, from August, 1866, until May, 1869, did nothing further toward obtaining a patent for the hand-mirror. The said corporation put into the market, in the fall of 1867, hand-mirrors made in accordance with Dudley's invention. Dudley did not know that fact. His co-patentee, Clark, obtained no interest in the invention until April, 1869: *Held*, that these facts constituted no objection to the validity of the patent.

An averment in the answer that the patent "was obtained upon false and fraudulent representations by the plaintiffs, or some of them, made to the Commissioner of Patents, and is wholly void in law," is too general to raise any triable issue.

(Before BLATCHFORD, J., Southern District of New York, January, 1872.)

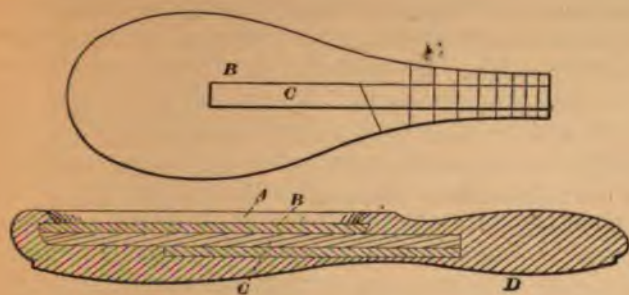
FINAL hearing upon pleadings and proofs.

Suit brought upon letters patent for an "improved hand-mirror," granted to W. U. Dudley and Lawrence W. Clark, as assignees of W. U. Dudley, July 27, 1869.

The facts are fully set forth in the opinion.

The accompanying engraving exhibits the Dudley mirror in section, with a plan view of the frame. A is the glass. B the base-piece or support. C is a stiffening piece bound to the base-piece with wire. D is the composition forming the back and handle of the finished mirror.

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The Estabrook brush, illustrated by the engraving below, consisted of a perforated plate, *a*, through which the bristles, *b*, were inserted and imbedded in a body of cement, *c*, which formed at the same time the back and handle of the brush.



Frederic H. Betts, for complainants.

Daniel W. Bond, for defendant.

BLATCHFORD, J.

This suit is founded on letters patent granted to W. U. Dudley and Lawrence W. Clark, as assignees of W. U. Dudley, the inventor, July 27, 1869, for an "improved hand-mirror." The specification, signed by the inventor, says: "My improvement relates to that description of hand-mirrors, for toilet use and other purposes, in which the frame that holds the glass is elongated at one end to form a handle, or it may be similarly shaped at both ends. The usual mode of constructing such mirrors is to mount the glass in a solid frame or thin block of wood, either naturally of ornamental character, or afterward made so by veneering, cut or shaped so as to be of similar contour to the glass, and with a projecting end formed to constitute a handle. Apart from the

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expense of hand-mirrors so constructed, where a very ornamental appearance is required, there is not only a general want of strength, especially at the neck or junction of the handle with the body, but a great liability to fracture of the glass by the twisting or warping of the wood of which the frame or holder is made. This latter defect is not merely at first, or peculiar to any greenness of the wood or newness of the article, when fracture of the glass from such causes frequently occurs, but is induced at any time by sudden and violent changes in the temperature of the atmosphere, exposure to damp and extreme heat. My improvement obviates such defect, being non-absorbent as regards damp, and free from any liability to warp, at the same time combining beauty with strength at a comparatively trifling cost; and the nature of my invention consists in mounting the glass on a base-piece of wood or other material, having a stiffening extension running into the handle, and imbedding the whole in a composition or cement of suitable description, that, on hardening, forms the back, edges, and outside handle of the mirror." The manner of constructing the article is then described, with references to the drawings: "A is the glass; B, a base-piece, of wood or other suitable material, preferably of similar contour to the glass which is designed to be mounted on it, but elongated at one end, which extension, with a strip of metal or other stout material at its back, forms a handle-stiffener, C, to the mirror. This base-piece, with its handle-extension or stiffener, C, is then laid in a mold or on a block, face downward, with or without the glass, A, in its place, and a composition or cement of any suitable plastic material applied in sufficient quantity to cover the back and extend beyond the edges of the base-piece, B, and so as to surround the handle-stiffener or end extension of the latter, when an upper mold of suitable configuration, and having its interior embellished with any ornamental device or devices, is pressed down upon the cement, which, when hard or dry, on removing the upper mold and lifting the article from the lower one, constitutes a smooth or finished, and, it may be, highly ornamental outer back and handle, D, impervious to damp, exempt from warping, with its consequent liability of fracturing the glass, and preservative of the wooden or other base-piece, which may be of a cheap and rough construction; and that, by its end extension, with strengthening

strip at its back, gives not only a general stability to the whole article, but especially stiffens the handle at its junction with the back or body, where it is naturally weakest or most liable to break. The under mold or block may also be embellished with any ornamental device. The glass may either be laid on a cushion of the lower mold, so as to be imbedded at its edges, simultaneously with the forming of the outer back and handle, in the plastic composition or cement, or it may be afterward inserted and restrained to its place on the base-piece, either by an ornamental bead around the edges of the glass, and formed of the same composition or cement of which the outer handle and back are made, or of different material afterward run around and applied thereto. As I do not wish to confine myself to any particular composition or cement of which to form the outer handle and back, but design to use any plastic substance or compound of suitable character, it will here suffice to state that a mixture, in equal parts, more or less, of paint, sifted sawdust, and shellac, forms a very desirable composition for the purpose, and one which readily admits of the color being varied to suit different tastes or demands. The claim is in these words: "I claim, as a new article of manufacture, a hand or portable-toilet mirror, constructed, substantially as described, of a base-piece, B, with its handle-extension piece or stiffener, C, glass, A, and outer back and handle, D, made of any suitable composition or cement, substantially as specified."

The hand-mirror of the defendant is made of a cement applied in a plastic state and afterward hardened; and imbedded in the cement and concealed from view are two flat wires or strengtheners, made of metal, and running from the body of the mirror part through the neck and into the handle, and serving to stiffen and strengthen the article, particularly at the junction of the handle with the body.

The defendant insists that the claim of the patent must be construed as being for a hand-mirror made by means of a glass mounted on a piece of wood shaped for the glass, and a handle, the handle being strengthened by a strip of iron, and the whole covered with a cement; that the defendant's mirror is a hand-mirror with a composition back, the composition being strengthened by the two wires; that the only office of the wires is to give strength

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to the back, and they are not, in any sense, the base-pieces or foundation on which the cement is pressed; that, in the defendant's mirror, the composition is the base or foundation, while, in the patent, the wood is the base or foundation; that the defendant's mirror has nothing corresponding to the base-piece, B, of the patent, the two wires corresponding only to the stiffener, C, of the patent; that the base-piece, B, is an essential part of the article claimed, and is claimed in the patent as such part; and that, therefore, the defendant's mirror does not infringe the patent. But the patent is not fairly susceptible of this limited construction. According to the description, the glass is to be mounted on a base-piece of any suitable material, which base-piece is, at its end, to be elongated or extended through the neck and into the handle, the extension being made sufficiently strong not only to give general stability to the whole article, but especially to stiffen the handle at its junction with the body, and the whole being imbedded in a suitable cement, applied in a plastic form, and which, when hardened, forms the back, edges, and outside handle of the mirror. The defendant's wires act as a base-piece or support for the glass, and the wires extend through the neck and into the handle, and act at the neck and in the handle as stiffeners, and there is an outer back and handle of cement. There can be no doubt that the defendant's mirror is, in its construction, substantially the same as the patented mirror.

Various defenses are set up in attack on the validity of the patent. To understand them, it will be necessary to give a history of certain events. The application for the patent sued on was filed August 6, 1866, the oath to the specification having been made by W. U. Dudley, August 1, 1866. The specification presented was in the same language as that attached to the patent. The application was rejected August 23, 1866, as being anticipated by a patent granted to Alanson C. Estabrook, June 19, 1866. Nothing further was done toward procuring the patent until May 1, 1869, when an argument in favor of granting the patent, notwithstanding the Estabrook patent, was sent to the Patent Office by the attorneys for Dudley. The office, on May 8, 1869, decided to grant the patent; but, through accident, it was not issued till July 27, 1869.

On August 6, 1866, Dudley filed an application for a patent for an

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"improvement in brushes," the oath to the specification being made by him August 1, 1866. The specification said: "In the manufacture of toilet and other brushes, it is customary to insert the bristles in a block or stock, which, by its extension, may be made to form the frame or handle of the brush, and afterward to cover by veneer the unfinished and usually perforated and wired back that holds the bristles. This is a slow and expensive process, and the article, when completed, is but slightly ornamented by the veneer or outer covering to the back. My present invention constitutes a great improvement upon such articles, combining strength with a high degree of ornament, at a cheap cost of manufacture; and the nature of it consists in inserting the bristles through a perforated plate, which is united by cement or otherwise to a back frame of wood, having attached to it a strip of metal or other stiffening material, that runs into the handle of the brush, and that, together with the back frame, is covered by any suitable composition or cement, which, after being molded, hardens, and forms a compact mass, that constitutes the stock and handle of the brush." The mode of constructing the brush is then described, with references to drawings. A suitably perforated plate or holder of, say corresponding configuration to the brushing surface, is taken, and in it are inserted the hairs or bristles, which may be bound and held therein by the usual wire-threading at the back, or otherwise. This perforated plate holding the bristles is afterward connected, by cement or otherwise, with a frame and handle constructed as follows: A wooden back, or other suitable base-piece, mainly of similar contour to the perforated plate, but longer, so as to form an extension into the handle of the brush, and having lashed to its back and handle end a strip of metal, or other stiffening material, is inserted in a mold, the form of which embodies the frame or body and handle of the brush, and may include any fanciful design or ornament to the back and handle. In the mold is put any suitable composition or cement, that, after receiving the impression of the mold, hardens into a compact mass, such, for instance, as that used in photographic picture-frames or cases, including the many well-known combinations of coal-tar, admixed with various materials, or composition or cement having shellac as a basis. The base-piece, with its stiffener, is so imbedded and pressed in this composition, as that it is not

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only backed by it, and the composition made to project beyond the edges thereof, so as to form a border to the edges of the bristle-holder, but the handle-end of said base-piece is entirely covered by said composition or cement, which constitutes the outside frame, back, or body, and exterior part of the handle of the brush. There is a drawing representing the base-piece, with its stiffener, before being coated with the cement; and another drawing representing the same after being coated, and when ready to receive the bristle-holder, which, being united by cement with the base-piece, forms one with it. The stiffening strip serves to strengthen the brush where it is naturally weakest, namely, at the junction of the handle with the frame or body, and prevents the cement or composition, which, conjointly with the base-piece and stiffener, forms the back and handle, from fracturing at such part, to which it otherwise would be liable. The claim applied for was in these words: "I claim, as a new article of manufacture, a brush constructed substantially as described, that is to say, a brush in which the bristles are inserted through a perforated plate or holder, imbedded in a composition or cement of any suitable substance, as described, which cement shall, in combination with a base-piece and stiffener of metal, or other material, form the back and handle of the brush, substantially as specified." This application was rejected August 23, 1866, as being anticipated by the said patent granted to Estabrook, June 19, 1866. On December 15, 1866, W. U. Dudley and his father executed to the Florence Manufacturing Company the following assignment: "Be it known that we, W. J. Dudley and W. U. Dudley, brush-makers, in the city of New York, under the firm of W. J. Dudley & Son, in consideration of three thousand dollars, to us paid by the Florence Manufacturing Company, of Florence, Massachusetts, the receipt whereof is acknowledged, do hereby bargain, sell, assign, convey, and transfer unto said company, its successors and assigns, all the inventions and improvements in the manufacture of composition brush-backs and handles, with suitable strengtheners, made, contemplated, or hereafter to be made by us, or by either of us; also, all applications for a patent now pending or hereafter to be made therefor, by us, or either of us; also, one press, three dies, and one heater, used by us in said manufacture, with all our useful information for making and selling said com-

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position brush-backs and handles, in the best way known to us or either of us, meaning hereby to transfer to said company all our rights to the manufacture and sale of said composition brush-backs and handles, and all our implements therefor, and hereby agreeing not to continue the same ourselves, nor to authorize or instruct others so to do; and we covenant that we have good and exclusive right to convey and transfer the aforesaid invention and property, and that no other person has any right or interest therein, and that we, and each of us, will, at the request and sole expense of said company, its successors and assigns, do all further acts and things necessary and proper to secure any patent or patents for said inventions and improvements, which patents, if allowed, are to be granted to said company for its exclusive benefit."

Before proceeding further, it is proper to refer to what is before spoken of as the patent granted to Estabrook, June 19, 1866. It was granted to J. S. Parsons and George A. Scott, as assignees of Estabrook, as inventor, for an "improved brush." It describes a brush in which the bristles, inserted through a perforated plate, are imbedded and held firmly in a suitable cement, which cement, at the same time, in combination with the plate, and an extension of the plate into the handle, forms the back and handle of the brush. As a structure, such brush was not substantially the same thing as the hand-mirror of Dudley. The Patent Office so decided, necessarily, in granting the patent for Dudley's mirror, and the decision was proper. The removal from Estabrook's brush of the plate and bristles, removes also the extension of the plate which forms the strengthening piece in the handle, and, if a mirror were inserted, in lieu of the plate and bristles, the article would be without a strengthening piece. The cutting off of the bristles would leave no cavity for the glass. The specification of the Parsons and Scott patent gives no suggestion as to how to construct a mirror like Dudley's.

The hand-mirrors sold by the defendant are made by the Florence Manufacturing Company, and they are the real defendants in this suit. The defendant contends that the company, by the assignment of December 15, 1866, acquired a right to use the invention covered by the patent sued on. The ground taken is that the entire invention embodied in the patent is embraced in Dudley's "improvement in the manufacture of composition brush-

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backs and handles, with suitable strengtheners," and in his application for a patent for such improvements; or, in other words, that, as the company have the right to make such brush-backs and handles as are described in the application of Dudley, filed August 6, 1866, for a patent for an "improvement in brushes," they have also the right to make and sell such mirrors as have been sold by the defendant, on the ground that the assignment of December 15, 1866, embraces the latter right, as well as the former right. It is claimed, on the part of the defendant, that the only invention involved in making the mirror covered by the Dudley patent, is in the manner in which the back and handle are made; that the back and handle, when made, are equally ready and suitable for the insertion, in the recess, of a plate with brush bristles or of a mirror glass; that there is no invention in inserting a mirror glass in the recess, or in removing the plate with brush bristles from the recess and inserting in its place a mirror glass; and that the back and handle, with a mirror glass inserted in the recess, can not properly be treated as a distinct article of manufacture from the article of manufacture consisting of the same back and handle with a plate with brush bristles inserted in the same recess. The sum and substance of these propositions is that Dudley ought to have applied for and obtained a patent for the back and handle, consisting of the base-piece, handle-extension piece or stiffener, and cement outer back and handle, with a recess, such recess admitting of the insertion in it of a mirror glass, or of a plate with brush bristles, or of anything else; and that he ought not to have covered by his patent the back and handle with the mirror glass in the recess. If such back and handle with the recess had clearly existed before the invention of Dudley, the question as to whether he could insert a mirror glass in the recess, and claim a patent for the article thus formed, would arise; or, if such back and handle, with a plate with brush bristles in the recess, had clearly existed before the invention of Dudley, the question as to whether he could remove the plate with brush bristles and insert in its stead a mirror glass, and claim a patent for the article thus formed, would arise. But no such questions arise on this branch of the case. And, if Dudley had patented the back and handle, with a recess unfilled, and had then conveyed to the Florence Manufacturing Company the ex-

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clusive right to the invention, so far as it could be applied to making brushes, such conveyance would not have carried any right to apply the invention to the making of mirrors or of anything except brushes.

What was the actual state of things when the assignment to the Florence manufacturing company was made? Dudley had not only invented the back and handle, consisting of the base-piece, handle-extension piece or stiffener, and cement outer back and handle, with a recess, but had demonstrated its applicability to the making, not only of brushes, but of hand-mirrors. He had applied for a patent for a brush, embodying such back and handle, and had claimed such brush as his invention. He had also applied for a separate patent for a hand-mirror, embodying such back and handle, and had claimed such hand-mirror as his invention. It is stated in the specification of the mirror patent, and is manifest, and the evidence shows, that, where the glass in a hand-mirror is mounted in a wooden frame, it is liable to be broken by the warping of the wood; and that, in the mirror of Dudley, there is no liability to warp in the frame, and no danger of the fracture of the glass from such cause. It is also shown that this point of advantage in the mirror does not exist in the brush. Consequently, there is a special function exerted by the mirror-back, in protecting the glass from fracture through the warping of the frame, which is not exerted by the brush-back. A wooden brush-back and handle may be warped and disfigured to the eye, yet its usefulness not be materially impaired; while an equal extent of warping in a wooden mirror-back and handle would fracture the glass and render the mirror useless. The applications of Dudley were both of them rejected in August, 1866. Less than four months afterward, the Florence Manufacturing Company, which was at the time making cement brushes, but not cement hand-mirrors, applied to the Dudleys, and paid them the sum of \$3,000 for the assignment in question. It is limited on its face to "brush-backs and handles." It only conveys improvements in the manufacture of "brush-backs and handles," and applications for a patent "therefor," and information for making and selling "said brush-backs and handles," and states that the assignors mean to transfer to the company all their rights to the manufacture and sale of said "brush-backs and handles," and agree not

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to continue the same themselves, or to authorize or instruct others so to do. At that time, the application by Dudley for the mirror patent, as well as his application for the brush patent, were both of them pending. Subsequently, the Florence Manufacturing Company applied to Dudley to execute a paper having reference to mirrors, but he declined to do so. I am entirely satisfied, from the evidence and the tenor of the assignment made by the Dudleys, that it was, in fact, and was intended at the time as, an assignment only of the invention of the brush and of the application for the brush patent.

The mirror, as an article of manufacture, was, in my judgment, patentable, as contradistinguished from the brush, even though the backs and handles of the two were made in the same way. There was, as before explained, a point of utility and adaptability in applying the non-warping property of the back and handle to rendering the glass of the mirror free from liability to fracture, which constituted sufficient invention to support a patent for a mirror, even though a brush with a like back and handle had existed before. Whether, if the mirror had existed before, a patent for a brush with a like back and handle could be sustained, and whether, the Dudley mirror being patented, a patent for the Dudley brush could be sustained, are questions which do not here arise. The Dudley mirror has been patented. The Dudley brush has not been patented.

It is contended by the defendants that the neglect of Dudley to prosecute further his application, after it had been rejected, until a period of two years and eight months had elapsed, constitutes an abandonment of the application, or an abandonment of the intention further to prosecute the application. It is not alleged in the answer that this constituted an abandonment of the invention to the public. The answer only avers that, after the rejection of the application for want of novelty in the invention, the plaintiffs "abandoned said application for over two years, well knowing that said Florence Manufacturing Company were making and using this pretended invention, and that the patent afterward granted was obtained upon false and fraudulent representations by the plaintiffs, or some of them, made to the Commissioner of Patents, and is wholly void in law." The answer does not set up any abandonment of the invention to the public, nor does

it set up the defense that the invention was in public use or on sale, with the consent or allowance of Dudley, for more than two years prior to his application for a patent for it. The answer in the averment cited is entirely frivolous. The abandonment of an application amounts to nothing, unless it is in such wise as to become an abandonment of the invention to the public; and the allegations as to false and fraudulent representations are too general to raise any triable issue. But the answer does not even aver an abandonment of the application. It avers that the plaintiffs abandoned the application for over two years. It does not set up a conclusive or final abandonment. It implies that the abandonment was only temporary, and was made with the intention of resuming the application. The proofs, however, show that there was no abandonment of the application, or of the invention, and no obtaining of the patent on false or fraudulent representations. Hand-mirrors made by the Florence Manufacturing Company, in accordance with Dudley's invention, were first put into the market in the fall of 1867, which was less than two years prior to the time when Dudley, in May, 1869, again pressed his application. Nor is there any evidence that Dudley had any knowledge, prior to the granting of the patent, that any mirrors made in accordance with his invention had been made by the Florence Manufacturing Company; and, although his copatentee, Clark, may have known of the making of such mirrors by the company, Clark obtained no interest in the invention, until April 30, 1869.

The only other defense set up in the answer is, that Dudley was not the first inventor of what is patented. It is not set up that he was not its inventor, or that he stole it from another. It is not set up that one Dane invented it, and that Dudley stole it from Dane. That defense was urged at the hearing; but the answer does not suggest it, nor does the evidence sustain it. The defense in the answer is that the same thing was, before Dudley's invention, known to and used by the Florence Manufacturing Company, A. C. Estabrook, Isaac S. Parsons, and William Gerhard, at Florence, Massachusetts.

Without discussing the details of the evidence, which is quite voluminous, it is sufficient to say that Dudley fully conceived and

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described his invention in May, 1865; that he at that time, or a month later, ordered the construction of dies, with which to make the mirrors; that the dies were cast in the summer of 1865, and proofs taken from them in plaster of Paris by November, 1865; that, prior to November 27, 1865, Dudley took the dies into his possession, and removed them from Newark, New Jersey, where they were made, to the city of New York; and that, soon afterward, and during the month of November, he exhibited some backs made in the dies, which backs were complete, and constructed entirely in accordance with the description in the patent. On March 12, 1866, he employed attorneys to procure the patent. He made some samples of finished mirrors in accordance with the invention, but he did not prosecute the business, for want of means. The only date in this series which the defendant undertakes to controvert with any show of reliance is the date of the making of complete backs by Dudley. That date is claimed to have been, not in November, 1865, but in January or February, 1866. Then the defendant undertakes to carry back the existence of the same invention at Florence, as made by Gerhard, Estabrook, and himself, all or some of them, to December, 1865. But the attempt fails. There was no such invention in the Parsons and Scott patent of June 19, 1866, taken out on Estabrook's brush, as has been already shown. There was no suggestion of a mirror in connection with the first die made at Florence, which was a die for the brush of the Parsons and Scott patent; and there is no satisfactory evidence that the invention of a mirror like Dudley's was made at Florence earlier than the latter part of February, 1866, if even as early. The burden is on the defendant to make out clearly an anticipation of Dudley's invention. The evidence fails to do this, and there must be a decree for the plaintiffs, for a perpetual injunction and an account of profits, with costs.

JOHN O. MERRIAM AND EDWIN CHAMBERLIN

vs.

FRANCIS DRAKE. IN EQUITY.

The claim of the reissued letters patent for an "improvement in whip-sockets," granted to John O. Merriam and Edwin Chamberlin, as assignees of Charles B. Morehouse, the inventor, July 12, 1870, namely: "The whip-socket, B, having permanently attached thereto the stationary jaw or clamp, E, in combination with the detachable jaw or clamp, G, whereby the said whip-socket may be fastened to and connected with the dash-board rod of a carriage or other vehicle, substantially in the manner and by the means herein described and set forth," is a claim to a whip-socket having, at the top and bottom thereof, metal rings or flanges, for the purpose of giving support and strength, with a stationary jaw of a clamp permanently attached thereto, and a detachable jaw, to be applied to clasp the rod of the dash-board, the detachable jaw forming, in connection with its fellow, a mouth or double jaw, which can be slid off and upon the object to which it is to be fastened, and made tight thereon by the single screw which holds its outer end to its fellow.

Each part of this combination being old, the patentees could not, and do not, by their patent, close the door to any other combination of these old elements, or to any other mode of combining them which is not substantially the same as that set forth in the patent.

Such form of clamp allows the whip-socket to be made fast to the dash-board rod without perforating the leather thereof.

Such claim is not infringed by a whip-socket which has no rings or flanges, and has a substantially different clamp, requiring the perforation of the leather of the dash-board to admit of its application thereto.

It is not true that a device is necessarily equivalent to another, merely because it effects the same result. The whole field of invention is cultivated with a view to devise other and new modes of effecting results that are known and common.

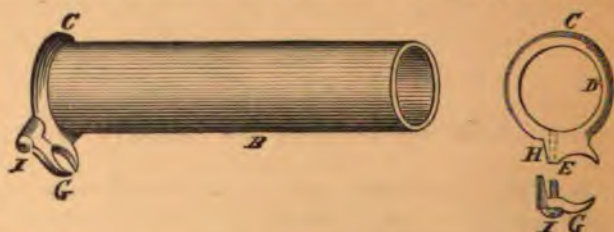
(Before WOODRUFF, J., Northern District of New York, January, 1872.)

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Merriam v. Drake.

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for an "improvement in whip-sockets," granted to Charles B. Morehouse, February 6, 1866; assigned to complainants, and reissued to them July 12, 1870.



The invention is illustrated by the above engraving, in which the upper ring and clamp and the dash-board and rod are omitted. The description in the specification is as follows:

"The nature of the said invention and improvement consists in the use of a whip-socket, having permanently attached thereto a suitably shaped extension or extensions, adapted to fit the dash-board rod of a carriage or other vehicle, in combination with one or more screw-caps, whereby said whip-socket may be securely fastened to the dash-board rod, substantially in the manner and for the purpose hereinafter more fully described and specified."

It described the construction and operation of the invention as follows:

"The whip-socket, B, may be made in any usual shape, and of any material desired, having at the top and bottom thereof metal rings or flanges, D, which are for the purpose of supporting and strengthening the whip-socket, B, and form part thereof. To these rings or flanges, D, are securely and permanently attached the stationary clamps, E. These clamps, E, should be of proper shape and size to conform to the dash-rod. The clamp, G, is made of malleable cast-iron, or other metal, and, in size and shape, to correspond with the stationary clamp, E. The operation of the improved fastening is as follows: The whip-socket, B, is placed against the dash-board, A, the stationary clamps, E, fitting closely against the dash-board rod, K. The clamp, G, is then placed against the said dash-rod, K, opposite to the stationary clamp, E, and then, by means of a screw or screws, or other mechanical means, the said clamps are forced together, securely clamping, clasping, and grasping the dash-board rod, K, thereby securely holding and fastening the whip-socket, B, in its proper place and position, yet detachable at pleasure."

The claim was in these words, as follows:

"The whip-socket, B, having permanently attached thereto the stationary jaw or clamp, E, in combination with the detachable jaw or clamp, G,

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whereby the said whip-socket may be fastened to and connected with the dash-board rod of a carriage or other vehicle, substantially in the manner and by the means herein described and set forth."

Esek Cowen, for complainants.

John B. Gale, for defendant.

WOODRUFF, J.

It will be seen, from the description and claim of the patent, that the patentees do not claim that either of the parts which make up their improved whip-socket is new. The whip-socket itself may be made in any usual shape, and of any material desired, having, however, at the top and bottom thereof, metal rings or flanges, plainly indicating, as, also, the plaintiffs' proofs in regard to the previous state of the art show, that whip-sockets for sustaining the whip, and attached to the dash-board rod, were not new, but were precisely what the patentees claim to have improved. And there is no claim—obviously there could be none—that clamps were not well known and common devices for clasp-ing and holding, permanently or temporarily, as the case might require, whatever might be placed between the two jaws thereof. Nor is the feature, that one jaw is permanent or fixed, and the other movable and detachable, claimed to be, in itself, novel. The manner in which parts of machinery are clamped by a double or single jaw; the well-known clamping tools of the joiner, the cabinet-maker, the shoe-maker, and the blacksmith; the common device of a clamp connected with and forming part of various articles in domestic use, to fasten them to a table or to a fixture, as, for example, the common reel, the needle cushion, and like articles found in the shops, and in the use of the seamstress or embroiderer—is familiar. Nor could the patentees claim the use of a clamp, generally, as a means of attaching a whip-socket to a dash-board. That would be claiming, as an invention, the mere application of an old device to a new use, which, by itself alone, is not the subject of a patent.

In view of the state of the art, and of the want of any pretense in the specification or claim that either of the parts are new, the claim of the plaintiffs' patent must be construed to be for a whip-socket constructed substantially as described, that is to say, having

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at the top and bottom thereof metal rings or flanges, for the purpose of giving support and strength, with a stationary jaw of a clamp permanently attached thereto, and a detachable jaw, to be applied, by some mechanical means, so as to clasp the rod of the dash-board; and, as clamps are of various form and manner of application, the precise form and mode of attaching the detachable jaw in the plaintiffs' patent is carefully exhibited in the drawings, where it is exhibited as forming, in connection with its fellow, a mouth or double jaw, which (like the clamp attached to a lady's pin and needle-cushion) can be slid off and upon the object to which it is to be fastened, and made tight thereon by the single screw which holds its outer end to its fellow. It is a whip-socket having this combination, and the devices employed to adapt each part to its place and office in the combination, that is secured to the plaintiffs by their patent; and, each part being old, the plaintiffs could not, and do not, by their patent, close the door to any other combination of these old elements, or to any other mode of combining them which is not substantially like that employed by the plaintiffs.

The office, as well as the advantage of the form of clamp specified by the plaintiffs as a part of their whip-socket, is shown by the evidence, as well as by the specification annexed to the original patent, of which the patent relied upon is a reissue. It was deemed important that the whip-socket should be so constructed that it could be made fast to the dash-board rod without cutting, perforating, or injuring the leather which constitutes the dash-board. That was the chief feature in the patent. Other patents existed for fastening a whip-socket by means of a metallic clamp differing but little from the one used by the plaintiffs; but the application thereof to the dash-board rod involved the cutting or perforating of the leather, to permit one jaw of the clamp to pass through, so as to embrace the rod, when the socket was in its proper position. Accordingly, the specification and drawings of the original patent and of the reissue, describe, exhibit, and refer to a peculiar arrangement of the jaws of the clamp, so that, at one end, they are held together and tightened by the clamp-screw, and, at the other end, are open, to be slid sidewise upon the rod, before the screw is made tight; and they may be removed in like manner without disfiguring the leather of the dash-board.

I do not suggest that such a whip-socket, made up of these several parts, arranged and adapted to each other in the manner described, was not a patentable device. Its peculiar arrangement of the parts, and their adaptation to the purpose in view, probably made it something more than a putting of an old device to a new use; but the patent stands upon rather narrow ground. It does not cover every possible mode of clamping a whip-socket to a dash-board, but, at most, only a mode which is substantially the same.

The defendant does not use or sell such a whip-socket as is described or referred to in the plaintiffs' specification, nor one that is at all like it. His socket consists of two parts hinged upon each other, so as to open and close at the top and bottom alternately, as the whip shall be inserted or withdrawn. It has no rings or flanges at the top or bottom, nor elsewhere thereon. Indeed, rings or flanges could not be placed thereon at all, without destroying its chief and peculiar characteristic, namely, the opening thereof at the top, to receive the whip, and the closing thereof around the whip when it is thrust to the bottom, and opening, in turn, when the whip is withdrawn. The defendant does not, therefore, use the plaintiffs' rings, nor any equivalent device, for either would be impracticable. The rings in the plaintiffs' whip-socket serve a double purpose. They strengthen the socket, and are its sole support, and are the base of the clamps, by an extension thereon forming the permanent jaws. The whip-socket used or sold by the defendant has not, and can not have, any such rings. It is made of sufficient strength to render them unnecessary for either strength or support. It will not avail the plaintiffs to say that, by making the defendant's socket of a form, or thickness, or strength sufficient to render the rings unnecessary, the defendant does employ an equivalent. Not so. He dispenses with the plaintiffs' device altogether. He has no need to use it, and is unable to use it. He has contrived another mode of giving strength and support, and has provided, in such other mode, for attaching it to the clasp which he employs to secure it to the dash-board. It is not true that a device is necessarily equivalent to another, merely because it effects the same result. The whole field of invention is cultivated with a view to devise other and new modes of effecting results that are known and common. The defendant

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does not use or sell a whip-socket having a clamp substantially like that which is described in the plaintiffs' patent. True, he fastens the whip-socket to the dash-board rod. That is the result attained by both. But, as already in substance suggested, the plaintiffs have not secured to themselves a monopoly of the result, but only of the special means of accomplishing it, in the combination constituting the whip-socket described, and such other means as are, in the combination, equivalent thereto. To one side of the body of the defendant's whip-socket are permanently attached projections, with outward curved faces, fitting the side of the dash-board rod; and, on the outer side of the rod, a strap of metal, also curved, is applied to the rod, and, by a screw at each end, passing to the projections first named, this strap is drawn down upon the rod and clasps it, drawing the inner projections on the socket firmly against the rod. This part of the defendant's whip-socket is not like that of the plaintiffs in form, nor in mechanical structure, nor in mode of operation, nor in its result, except only that it does fasten the whip-socket to the rod. It requires that the leather of the dash-board be cut or perforated, to allow of its application. It can not be slipped upon the rod sidewise, and so removed at pleasure. It can not be moved from one position to another, slid up or down, without new perforations of the leather, with each change of position, thus disfiguring the dash-board. In short, the defendant's whip-socket, with its adaptation to use, is a different organization, and constitutes no infringement of the plaintiffs' patent.

The bill of complaint must be dismissed, with costs.

Platt v. U. S. Patent Button, Rivet, Needle & Machine Man'fg Co.

CLARK M. PLATT

vs.

THE UNITED STATES PATENT BUTTON, RIVET, NEEDLE,
AND MACHINE MANUFACTURING COMPANY. IN
EQUITY.

The letters patent for an "improvement in buttons," granted to Clark M. Platt, July 10, 1866, are valid.

The claim of the patent, "The button, formed of a single piece of metal, with the edge turned over, and with one central hole, as a new article of manufacture, as specified," covers a button formed of a single thickness of metal, with the edge folded over upon the body of the metal, and with one central hole, capable of being used for a single rivet or eyelet, to fasten the button to the garment.

Such button is not anticipated by a button having the single piece of metal and the folded edge, but no central hole; or by a button in which the edge was not folded over upon the body of the single piece of metal; or by a button not made of metal; or by a button not made of a single piece of metal; or by a button made of a single piece of metal, with its edge folded over on the body of the metal, and with two, three, or four holes, so as to be attached to a garment by sewing; or by a button made of more than one piece of metal, in which the edge of one of the pieces of metal is folded over upon the other parts which make up the thickness of the button, and not upon itself.

(Before BLATCHFORD, J., Southern District of New York, January, 1872.)

FINAL hearing upon pleadings and proofs.

Suit brought upon letters patent for an "improvement in buttons, granted to complainant, July 10, 1866.



a, plate; 2, 2, folded edge; 3, central hole.

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Platt v. U. S. Patent Button, Rivet, Needle & Machine Man'g Co.

The nature of the invention is illustrated by the accompanying engraving, and an abstract of the specification, together with the claim of the patent, will be found in the opinion of the court.

Gilbert M. Plympton, for complainant.

Charles A. Durgin, for defendant.

BLATCHFORD, J.

This suit is brought on letters patent of the United States, granted to the plaintiff July 10, 1866, for an "improvement in buttons." The specification says: "Buttons have heretofore been made with a hole in their center, to receive a rivet that is passed through the garment. Said buttons have been made by uniting two thicknesses of metal at the edges, with a piece of paper between them. This mode of making is costly. Buttons have also been made of one piece of sheet metal; but the edge of the button formed by the thin sheet metal is sharp, and renders the button objectionable. My invention relates to a button which is a new article of manufacture, being made of one piece of metal, the edge of which is thickened by being folded over on itself, and the center is perforated with one hole, for the reception of a rivet or eyelet passing through the garment and button, and riveted up to fasten the button to the garment." Then follows a description of the button, with references to the drawings. The edges of the disk or button blank are first turned back and then folded down on the button itself. The center of the button is perforated for the reception of the rivet; the surface of the button is struck down, to increase its ornamental appearance; and the edges of the hole may be raised or pressed forward, so as to raise a burr, which will cause the metal of the button to sit tightly around the rivet. The button may, however, have a plain central hole, adapted to a rivet, eyelet, or other fastening. The edge of the button may be turned forward, instead of back—in either case making the edge of the button sufficiently thick and smooth for use, in consequence of the double thickness and fold at the edge. A conical hole or burr around the central hole is disclaimed. The claim is: "The button, formed of a single piece of metal, with the edge

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turned over, and with one central hole, as a new article of manufacture, as specified."

There can be no doubt of the great utility of the button covered by the patent. The folding over of the edge of the single thickness of metal of which the button is made, upon the body of the metal, thickens the edge, and thus enables a light weight of metal to be used, while the edge of the button is strong and smooth. These features, with the central hole, make up the button. It has a light weight of metal, and is, therefore, cheap to make. It has but one piece of metal to be handled, and is, therefore, cheap to make. The folded edge has the thickness and smoothness of the edge of a button made of two pieces of metal. The button can be attached without sewing, and by a single rivet. The button sold by the defendants is identical with that of the patent.

The defendants have attacked the patent for want of novelty, but have wholly failed in such defense. It is not shown that any button made of a single piece of metal, with the edge folded over upon the metal in the body, and with a single central hole, existed before the invention of the plaintiff. This remark applies to the patents granted to Willoughby H. Reed, November 15, 1864, and June 6, 1865; to the application of Kosman Rose, of April 29, 1858; to the application of John P. Jamison, of October 16, 1860; to the patent granted to Festus Hayden, July 10, 1840; to the patent granted to Henry S. Poole, August 11, 1841; to the patent granted to P. Davey, November 29, 1859; to the application of Samuel Cantrell, of February 22, 1865; to the application of Samuel B. Fay, of August 13, 1856; to the patent granted to Philander H. Benedict, March 14, 1865; and to the patent granted to Edwin Smith, April 16, 1861. Some of the prior buttons contain one or two of the three features of the plaintiff's button, but all of such features are not found combined in any one of the prior buttons. Those features are: the single thickness of metal; its edge folded over on its body; the central hole, capable of being used for a single rivet or eyelet, to fasten the button to the garment. Thus, the Rose button has the single piece of metal and the folded edge, but no central hole. In the Jamison button, the edge is not folded over upon the body of the single piece of metal; nor is it in the Reed button of 1864; or in the Hayden

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Day v. Bankers and Brokers' Telegraph Co.

button; or in the Davey button; or in the Poole button. The Fay button is not made of metal. The Smith button is not made of a single piece of metal; nor is the Reed button of 1865. Nor is the plaintiff's button anticipated by a button made of a single piece of metal, with its edge folded over on the body of the metal, and with two, or three, or four holes, so as to be attached to a garment by sewing; or by a button made of more than one piece of metal, in which the edge of one of the pieces of metal is folded over upon the other parts which make up the thickness of the button, and not upon itself.

There must be a decree for the plaintiff for a perpetual injunction, and an account of profits, with costs.

SAMUEL F. DAY AND HENRY A. MANN

vs.

THE BANKERS AND BROKERS' TELEGRAPH COMPANY.
IN EQUITY.

The second claim of the reissued letters patent for an "improvement in electro-magnetic telegraph," granted to Samuel F. Day, March 23, 1869, namely, "The arrangement of the sounding-box, C, the lever, D, and the sounding-post, G, of a magnetic telegraph, in combination with each other, in the manner hereinbefore described, and to the effect stated," is void, for want of novelty.

The combination covered by such second claim is one which is capable of being used either in a local current, or in a main-line current, and is not claimed merely when used where a local battery is dispensed with.

The use of such combination in a local current would be an infringement of the claim; and the prior use of the arrangement in a local current is an answer to the claim.

The combination claimed is the arrangement of the sounding-box, lever, and sounding-post, relatively to each other, so that the blow of the armature will be struck directly toward the box, so as to produce a vibration of the box, and consequent sound, by direct action, and so that the sound produced by the blow will be more audible than if the blow were not struck at all in connection with a box or hollow base, but

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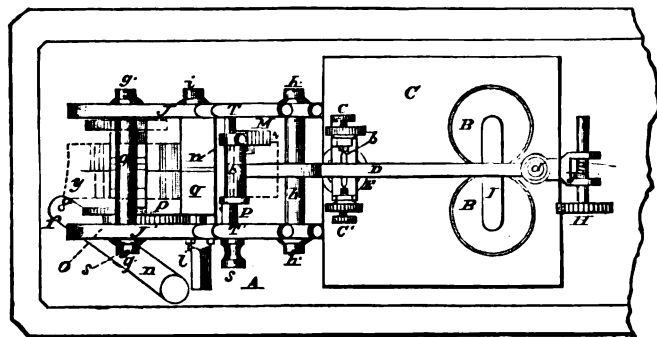
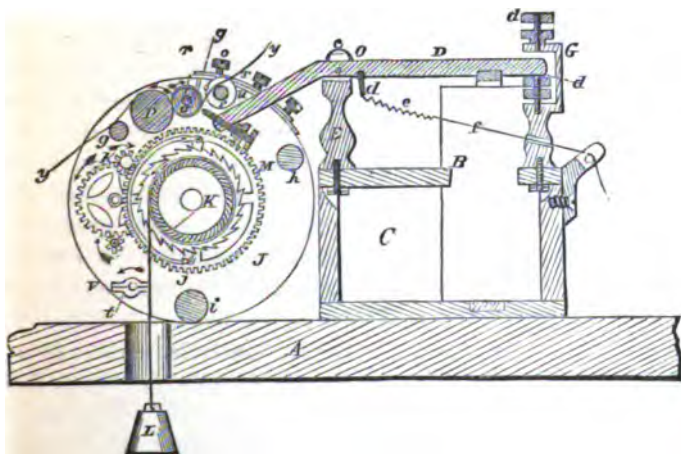
were struck in connection with a solid base, or were struck in connection with a box or hollow base, but not directly toward it.

Such an arrangement existed previously, though in a small instrument, used only in a local current, the box and the magnet being small, and the sound feeble; but the absolute parts, and their relative arrangement, and their action, and their effect, remaining the same, it required no invention to make the box larger, to produce more sound, so as to use it in a longer circuit, with a larger and heavier magnet.

(Before BLATCHFORD, J., Southern District of New York, January, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for an "improvement in electro-magnetic telegraph," granted to complainant, Samuel F. Day, May 24, 1864, and reissued March 23, 1869.



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The first of the foregoing engravings represents a sectional, and the second a plan or top view of the apparatus. It is believed that, by reference to them, in connection with the ample quotations from the specification in the opinion of the court, the nature of the invention can be readily understood.

Thomas P. How, for complainants.

Charles H. Wesson, for defendants.

BLATCHFORD, J.

This suit is founded on reissued letters patent granted to Samuel F. Day, one of the plaintiffs, March 23, 1869, for an "improvement in electro-magnetic telegraph," on the surrender of original letters patent granted to him May 24, 1864. The second claim of the patent is the only one in question in this suit. The specification says: "This invention relates to a certain improvement in Morse's electro-magnetic telegraph, which dispenses with the use of local batteries and relays at the several stations on the line; and it consists, in part, in the adaptation to and combination of an indenting register with the main line. Said invention also consists in the arrangement, in combination with the other parts of the instrument, of a sounding-box, in the manner hereinafter set forth, by which the audibility of the sound produced by the blow of the registering lever is very much increased, thus enabling the operator to catch the sounds with much greater facility, in case he desires to read a message by sound." The specification then proceeds to describe the construction of the apparatus, with references to the drawings. So far as the improvement covered by the second claim is concerned, the arrangement is this: There are two electro-magnets placed in a vertical position, and surrounded by a sounding-box, C. D is a lever, with a pin or arm projecting downward from its under side. This lever is attached to an arbor, and is centered between two thumb-screws, which terminate in a standard, E. An adjustable thumb-screw with a steel point, F, is attached to that portion of the lever, D, which is represented in the drawings as being bent downward. The opposite end of the lever terminates between a standard, G, provided with suitable thumb-screws for adjusting said lever ac-

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cording to the strength of battery on the main line. The lever, D, is hung on the standard, E, at about two-thirds its length, taken from the right-hand end of the lever. A spiral spring is made to fasten on the arm or pin of the lever, D, the tension of which is regulated by a thumb-screw, around the shaft of which a fine cord is wound, which cord passes through the center of the standard, G, and connects with said spiral spring. The object of such spiral spring is to withdraw the armature on the lever, D, from the electro-magnets, when the circuit is broken. The apparatus is provided with clock-work machinery, to feed continuously paper which is to be marked by the indenting register. When the circuit is closed, and the armature is attracted to the magnets, the steel point, F, is forced into the moving paper, and produces on it strokes or dots. The specification then states that it is necessary to the success of the instrument in a main-line current, not only that the fulcrum of the lever, D, should be placed as near as practicable to that end of the lever which carries the steel point, F, but that the magnets should, instead of being made of No. 22 wire, be made of No. 32 wire, and, instead of being made of a weight of from four to eight ounces of wire, be increased to from twenty ounces to two pounds in weight, and that the length of the cores should be increased to about three inches, and their diameter to three-eighths or one-half of an inch. The specification proceeds: "By constructing my apparatus in this manner, I am enabled to work an indenting registering instrument in a main-line circuit of any ordinary length, without the intervention or aid of a local battery, and by this means I entirely avoid the expense and trouble of the latter. This might, perhaps, be done by the change in the construction of the magnet, without changing the lever from an equal beam; but I prefer to construct the lever in the manner described, as it very materially aids in the accomplishment of the result. The combination with a registering instrument of a magnet constructed as I have described, enables the line current to operate upon the instrument with great intensity; and this intensity well supplies the place of the volume derived from the local battery, by which it is now customary to work such instruments. The object of the improvement being to work an indenting registering instrument by the power of the main-line current, it is obvious that the nature and gist of the in-

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vention consist in giving to the parts such a construction as to cause this current to act upon the instrument with sufficient intensity to properly indent the paper for ordinary business purposes, on a line of ordinary or equivalent construction and length, in such a manner as to be available for the ordinary purposes of telegraphing, and that the line of distinction between this invention and the old form and manner of construction, is found in the adaptation of the instrument to the successful accomplishment of this purpose, of which it was before incapable. It will be observed that the fulcrum-post, E, and the sounding-post, G, are set upon the top of the box, C, instead of being attached directly to the bed-plate of the machine, as in the construction now in common use. The object of this improvement is to make the sound produced by the blow of the lever more audible, which result it accomplishes in a very satisfactory manner, thus enabling the operator, if qualified, to read by sound, if desirable, under circumstances in which it would otherwise be difficult, if not impossible. It will be observed that the sounding-post, or part upon which the blow is struck, is so attached to the sounding-box, C, and the other parts are so arranged in connection with it that the blow is struck directly toward the box, in such a manner as to produce vibration thereof by direct action; that is to say, a tangential line, drawn from the arc in which the armature vibrates, at the point at which the blow is given, would intersect the box, making the action of the blow direct, in producing the vibration and consequent sound. It is only in this way that the full effect of the blow, in producing the sound for reading the message, can be realized. I am aware that an instrument has before been constructed in which the coils have been placed longitudinally above a similar box, and the blow struck in a line parallel to the top of the box, and passing outside of and above said box; but this does not accomplish the purpose of my invention, as the action of the blow is not and can not be direct, but is only incidental, and does not have that effect in developing sound from the box, which a direct blow would have." The claims are these: 1. "I claim combining with an indenting telegraphic registering instrument, a magnet constructed according to the proportions described in the foregoing specification, or substantially so, so as to accomplish the result stated, by means substantially the same, that is to say, so as to

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give sufficiency of intensity and power of action to produce uniformly legible indentations in the paper, in an ordinary line current, without the aid of a local battery, as hereinbefore set forth."

2. "I also claim the arrangement of the sounding-box, C, the lever, D, and the sounding-post, G, of a magnetic telegraph, in combination with each other, in the manner hereinbefore described, and to the effect stated."

The principal defense urged in respect to the second claim of the patent, which is the only one alleged to have been infringed, is its want of novelty.

There can be no doubt, from the language of the specification and claim, and from the evidence, that, while the combination specified in the first claim is one for use only in a main-line current, when a local battery is dispensed with, the arrangement or combination covered by the second claim is one which is capable of being used either in a local current or in a main-line current, and is not claimed merely when used where a local battery is dispensed with. The combination in the second claim is claimed "in the manner hereinbefore described, and to the effect stated." The "manner" is the arrangement of the sounding-box, lever, and sounding-post, relatively to each other, so that the blow of the armature will be struck directly toward the box so as to produce a vibration of the box, and consequent sound, by direct action. The "effect" is, to make the sound produced by the blow more audible than if the blow were not struck at all in connection with a box or hollow base, but were struck in connection with a solid base, or were struck in connection with a box or hollow base, but not directly toward it. This arrangement or combination, in the second claim, is applicable as well to a local current, produced by a local battery, as to a main-line current, where a local battery is not used; and the use of the arrangement in a local current would undoubtedly be an infringement of the claim. Hence, the prior use of the arrangement in a local current is an answer to the claim.

The evidence is clear that the arrangement or combination, in the second claim, of the sounding-box, lever, and sounding-post, with the blow struck directly toward the box, was in use, as a successful, practical telegraphic instrument, a considerable time

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before the invention of Day. To say nothing of any other apparatus, that represented by Exhibit No. 6 was so in use. It produced the "effect" stated in the specification—of making "the sound produced by the blow of the lever more audible" than it would be with a solid base. It was known by the name of the "Chester sounder." It had, and could have, no other object than to make more sound than would be made by a solid base, the base being a box made hollow, and the blow being struck directly toward the box. The instrument was small, and the box was small, because it was intended for use, and was used, only in a local current, and the magnet was small, and the sound was feeble, at most. But the moment the occasion arose for using an instrument that would make more sound, the production of more sound by making the box larger, was obvious, and was no invention. It was only the difference between a large drum and a small drum. The absolute parts, and their relative arrangement, and their action, and the effect, are the same in the patent as in the Chester sounder, only the sound is louder, because the box is larger. The Chester sounder produced more sound with its box than if the base had been solid. Day's apparatus produces more sound than Chester's, but only because the box is larger. The difference is one merely in degree, not in patentable substance.

The date of the existence of the Chester sounder is carried back to 1858 or 1859—a time anterior to the invention of Day. In the shape in which it then existed, it continued to be used until quite recently. It was a complete and successful instrument, and was used in telegraph offices in various parts of the United States, in local circuits. The instrument was placed upon a box; the coils were set in a perpendicular position; the lever was horizontal; the blow was struck on the end of a sounding-post, in a direction toward the box; and the sounding-posts and the supports of the lever centers were fastened to a metallic plate, which plate was screwed to the top of the box. When the circuit was closed, the lever was drawn down, and struck the sounding-post, and the blow produced a sound which was louder, because the sounding-post was attached to a box, instead of being attached to a solid base. The combination of parts, their arrangement relatively to each other, the direction of the blow, and the effect in sound, were

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the same, in substance and in kind, as in the combination covered by the second claim of the Day patent. The instrument was not practically applicable to a long line or main circuit, but only to a local circuit, or a line a few miles in length. But the difference between a main circuit and a local circuit is merely one of length. It is shown that the larger and heavier the magnet, the greater the range of length of line on which the Chester sounder would work; and the larger the box, the louder the sound. I can not resist the conclusion, from the evidence, that Day's sounder is merely the Chester sounder, adapted, indeed, for use on a main circuit, by having a larger magnet and a larger box, and its other parts proportionally enlarged; but the combination of parts, their mode of operation, and their result in kind, as claimed in the second claim of the patent, remaining the same as in the Chester sounder. It may, perhaps, be that Day invented something in connection with the sounder, which he can patent by a proper claim. But what he has patented, in his second claim, existed before, in the Chester sounder. He merely claims the sounding-box, lever, and sounding-post, in combination with each other, to make a louder sound when the lever strikes the sounding-post, by reason of the apparatus being set on a hollow box, instead of a solid base, and the blow being struck directly toward the box. The three parts are not claimed in combination with any particular magnet, or with any other part of the apparatus. They are not claimed in combination with a larger magnet, to work in a main-line circuit (if such a claim could be made), but are claimed only in combination with each other, to make a louder and more audible sound in any circuit, long or short, and with any size magnet—to develop sound from a box, by a blow struck directly toward the box.

The result is that the bill must be dismissed, with costs.

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WILLIAM H. WEBB AND CHARLES W. S. HEATON

vs.

GEORGE W. QUINTARD. IN EQUITY.

The letters patent for "an improved defensive armor for ships and other batteries," granted to Charles W. S. Heaton, April 14, 1863, are void, for want of novelty.

In 1861, a description and drawings were published in a printed publication, in England. From those, the United States, in 1863, caused to be constructed and placed on a vessel, armor like that claimed in the patent of Heaton, one of such drawings being practically the same thing as the armor placed on such vessel. Heaton conceived the idea of his armor in 1856. In 1858, he experimented, by firing a pistol at small pieces of wood and iron. He made no experiments from the forepart of 1859 till the latter part of 1861, when he began to make a model of a war vessel, which he completed early in 1862. The first trial he made with real armor was in March, 1863: *Held*, that Heaton did not make his invention before the date of the English publication.

A printed publication is, by sections 6, 7, and 15 of the act of July 4, 1836 (5 U. S. Stat. at Large, 119, 123), put on the same footing with a patent taken out at the time of the publication; and, regarding the English publication as a patent, it is not unjustly obtained for that which had before been invented by Heaton, who was using reasonable diligence in adapting and perfecting it.

Heaton did not make his invention until he made his model, and he did not begin to make that until after the English publication had been made.

A previous conception of the possibility of accomplishing what the English publication makes known, and some experiments with reference to it, was not enough. There must have been a reduction of the idea to practice, and an embodiment of it in some distinct form.

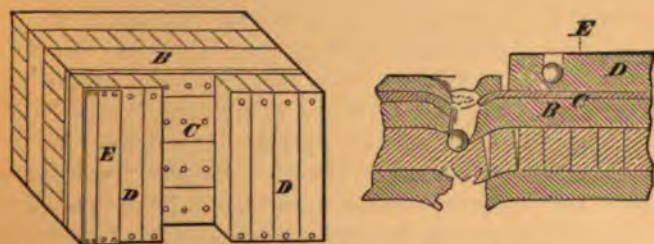
(Before BLATCHFORD, J., Southern District of New York, January, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought on letters patent for an "improved defensive

armor for ships and other batteries," granted to complainant, C. W. S. Heaton, April 14, 1863.

The nature of the invention is set forth in the opinion, and will be readily understood by reference to the accompanying engraving, in which B represents the ordinary outer planking of a ship; C, metallic armor; D, an outer layer of timber; and E, a thin exterior sheathing of iron.



S. D. Cozzens and C. F. Blake, for complainants.

Edward N. Dickerson, for defendant.

BLATCHFORD, J.

This suit is brought on letters patent granted to the plaintiff, Heaton, April 14, 1863, for an "improved defensive armor for ships and other batteries." The specification states that the longitudinal outer timbers of the vessel form the backing to the armor; that the armor-plates are laid against the backing in the usual way; and that the armor-plates are covered with an outer layer of timbers, to deaden and to gradually resist the penetrating force in its passage to the armor-plates. It then says: "In this heavy buoyant surface lies the gist of my invention or discovery. My invention consists, not in the introduction of wood, rubber, or any other like yielding substance, behind the metal armor, but in the discovery that a timber or other yielding surface will deaden or resist the power of a cannon-ball, when such wood or other surface is backed by the metal armor, which usually is on the surface, and when such metal armor is backed by sufficient wood or other backing to hold it rigidly in its normal position. My system of armor for vessels or forts does not contemplate stopping

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the ball at the immediate surface ; but the metal, or armor proper, is placed at an intermediate point, so that, by the time the shot has reached it, its momentum is so greatly reduced that it is arrested without serious injury, either from starting the bolts or fracturing the metal armor. The object of my system of armor is to render a war vessel or other structure shot-proof with a less amount of iron armor than is now used with that end in view. By using less metal and more timber, I increase, instead of decreasing, the buoyancy of a ship, and, at the same time, greatly increase the resisting effect of the armor plating. Another object which I have in view is to obviate the tendency to break the bolts or fastenings of the plating, when it is struck by a ball." The specification then illustrates the operation of the invention in connection with drawings. It states that the patentee, in practice, simply overlays the iron armor of an ordinarily constructed vessel (which iron armor is backed up by sufficient backing to rigidly support the plates) with an outer layer of timber, which timber is only bolted on sufficiently strong to hold it to its place ; and that his invention also consists in plating or thinly sheathing this timber on its outer or exposed surface, not, however, to stop shot, but to prevent a raking shot from tearing the timber, and also to prevent the wood from being too readily set on fire, as such sheathing would exclude the air and so retard combustion. The claim of the patent is : " The employment of wood, or its equivalent, when used in the manner and for the purpose, substantially as described." The application for the patent was filed March 28, 1863.

In 1863, the government of the United States caused to be constructed for itself a vessel of war called the Onondaga. The vessel was built by the defendant, under a contract with the government, as a vessel with iron armor. During the progress of her construction, wooden armor on the outside of the main iron armor, and a thin plating of iron on the outside of such wooden armor, were put upon the vessel, by the order of the navy department, given in March, 1863. The wooden armor and the iron plating were put on and completed in June and July, 1863. Such wooden armor and iron plating were applied in consequence of a description and drawings published at London in 1861, at pages 8 to 17, and plate 2, of a volume entitled, " Transactions

of the Institution of Naval Architects, volume 2," being a paper "On the construction of iron vessels of war iron-cased," by J. D'Aguilar Samuda, Esq., and were made in accordance with such description and drawings. The vessel, when completed, passed into the ownership, possession, and service of the government. On March 2, 1867, an act was passed by Congress (14 U. S. Stat. at Large, 543), authorizing and directing the secretary of the navy to deliver the vessel to the defendant for his own use and behoof, on the payment by him to the treasury of the United States of the sum of \$759,673. He paid the money and received the vessel, and, in the spring of 1867, sold her to the French government, and delivered her at that time to such government, on such sale, in the city of New York. When so received, and when so delivered, she had upon her the said wooden armor and iron plating. It is for this sale, as an infringement of the patent, that this suit is brought. The patentee, in his testimony in the case, admits that one of said drawings in said volume is practically the same thing as the armor of the Onondaga.

To counteract the force of this state of facts, it is attempted to carry back the invention of Heaton to a date anterior to 1861, but, I think, without success. The patentee testifies that while in England, in 1856, he saw an iron-clad gunboat, and the idea occurred to him that the wood ought to be outside of the iron armor; that, within a week from that time, he wrote to the British Admiralty, suggesting that a defense be made consisting of wood outside of iron, and asking for aid or authority to experiment to that end; that, three or four months afterward, he received a reply refusing such authority; that, in September or October, 1858, while in the United States, he fired a revolver at the wooden head of a nail keg, fastened by a wire to the sheet-iron top of the perpendicular lever of a railroad switch, and hit the wood obliquely, and concluded that an oblique shot would damage the side of a ship more than a shot striking it squarely would; that, a few days afterward, he fastened a piece of plank between a thin piece of sheet-iron and a thick piece of sheet-iron, and laid the article down on a railroad tie, with the thin iron piece uppermost, and fired at it with a revolver straight down, and also obliquely, and found that the thick iron under the plank was not affected by the shots, and that the thin iron prevented the oblique shots from damaging

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the plank; that he made no experiments from the forepart of 1859 till the latter part of 1861; that, at the latter date, he began to make a model of a war vessel, to illustrate his new system of armor; that, early in 1862, about the time the model was done, he wrote to the secretary of war, asking to have the model examined; that the first trial he made with real armor on his plan, by firing at it with cannon, was made in New York, in March, 1863; and that a like trial was made by him at Washington city, about the same time. On these facts, it is contended, for the plaintiffs, that Heaton completed, in 1856, the invention of putting wood outside of iron for armor, and that he completed, in the fall of 1858, the invention of the wood outside of the iron, and the thin iron outside of the wood.

Section 6 of the act of July 4, 1836 (5 U. S. Stat. at Large, 119), provides for the granting of a patent to a person for an invention "not known or used by others before" his discovery or invention thereof. Section 7 provides that there shall be an examination of the alleged new invention, and that if, on the examination, it shall not appear "that the same had been invented or discovered by any other person in this country prior to the alleged invention or discovery thereof by the applicant, or that it had been patented or described in any printed publication in this or any foreign country, or had been in public use or on sale, with the applicant's consent or allowance, prior to the application, if the commissioner shall deem it to be sufficiently useful and important, it shall be his duty to issue a patent therefor; but, whenever, on such examination, it shall appear to the commissioner that the applicant was not the original and first inventor or discoverer thereof, or that any part of that which is claimed as new had before been invented, or discovered, or patented, or described in any printed publication, in this or any foreign country, as aforesaid, or that the description is defective and insufficient, he shall notify the applicant thereof, giving him briefly such information and references as may be useful in judging of the propriety of renewing his application, or of altering his specification to embrace only that part of the invention or discovery which is new." Section 15 provides that it shall be a defense to an action at law on a patent, "that the patentee was not the original and first inventor or discoverer of the thing patented, or of a substantial and mate-

rial part thereof claimed as new, or that it had been described in some public work anterior to the supposed discovery thereof by the patentee, * * * or that he had surreptitiously or unjustly obtained the patent for that which was in fact invented and discovered by another, who was using reasonable diligence in adapting and perfecting the same; * * * provided, however, that whenever it shall satisfactorily appear that the patentee, at the time of making his application for the patent, believed himself to be the first inventor or discoverer of the thing patented, the same shall not be held to be void on account of the invention or discovery, or any part thereof, having been before known or used in any foreign country, it not appearing that the same, or any substantial part thereof, had before been patented or described in any printed publication." These provisions of sections 6, 7, and 15 of the act of 1836 have been, in substance, re-enacted in the act of July 8, 1870. 16 U. S. Stat. at Large, 198.

Under these provisions of law, if the publication in the English work preceded the discovery by Heaton, the defense to the suit is made out. Under the law, the publication in the English work is put on the same footing with a patent taken out at the time of the publication. The sole question, therefore, is whether Heaton made his invention before the date of the English publication. The occurring of the idea to him, in England, in 1856, and his letter to the British Admiralty, certainly can not be regarded as a making of the invention. Nor can his pistol practice in 1858 be so regarded. The first attempt he made to embody his ideas in a practical form, by constructing a model, was in the latter part of 1861, the model having been finished early in 1862. This was all of it, according to the evidence, after the publication had been made in England, from which the Onondaga was armored as she was. If the English publication were an American patent, could it be said, in defense to an action on it, that it was unjustly obtained, for that which had in fact before been invented by Heaton, who was using reasonable diligence in adapting and perfecting it? Heaton may have used reasonable diligence in developing his ideas toward making an invention. But that is not the point. To give him a precedence over the English publication, he must have first made the invention, and then have been using reasonable diligence in adapting and perfecting the invention so

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made. When did he make the invention? Not until he made the model, which, according to the evidence, he did not begin to make until after the English publication had been made. The articles at which he fired with a pistol can not be regarded as an embodiment of the invention, so as to destroy the rights of the defendant in respect of a vessel actually armored in accordance with what was published in England in 1861. *Colt v. Massachusetts Arms Co.*, 1 Fisher's Patent Cases, 108, 120. Looking at the English publication as a patent issued, which is the proper view in respect to this case, it can not be defeated by showing that Heaton previously conceived the possibility of accomplishing what the publication makes known so satisfactorily that it has been followed in armoring the Onondaga. To constitute Heaton a prior inventor, he must have proceeded so far as to have before reduced his idea to practice, and embodied it in some distinct form. *Parkhurst v. Kinsman*, 1 Blatch. C. C. 488, 494. In order to prevent the defendant from having the benefit of the English publication, it is necessary that Heaton should have previously discovered the thing, and reduced it to actual practice. *Cox v. Griggs*, 2 Fisher's Patent Cases, 174, 177. The pistol practice of Heaton was not a reduction of his ideas to practice, or an embodiment of them in a distinct form, within the good sense of these rules, so as to constitute an invention on his part, within the meaning of the statute. /

The bill must be dismissed, with costs.

HENRY SAWYER

vs.

SAMUEL M. BIXBY AND CLARENCE TUCKER. IN
EQUITY.

The reissued letters patent for an "improvement in putting up powders, etc.," granted to Henry Sawyer, October 1, 1867, which claim, as a new article of manufacture, "a package or case, which, when made with distributing holes, and filled, is cemented by the wax or wafer, as set forth," do not cover any patentable invention.

The invention claimed is a small cylindrical box, perforated at the end with holes, and having the perforations closed by wax, or wafer, or paper pasted on, to retain the contents while the box is being transported, the wax or wafer being removed, or the paper punctured, when it is desired to permit the contents to pass through the holes.

The cylindrical box, perforated at one end for the distribution of powder, is old. The closing of packages with wax, wafer, or pasted paper is also old. Each of these devices produce their obvious, well-known result; and, in combination, each produces no other effect than each produces separately. This is not a legitimate combination.

Everything in such invention, both in means and result, was old.

(Before WOODRUFF, J., Southern District of New York, January, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for an "improvement in putting up powders, etc.," granted to complainant October 1, 1867.

The nature of the invention is sufficiently set forth in the opinion. In the accompanying engraving, *a* is the box; *c*, the perforated top; and *d*, the exterior covering of paper.



Andrew J. Todd, for complainant.

Charles A. Durgin, for defendants.

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Sawyer v. Bixby.

WOODRUFF, J.

The complainant alleges that the defendants have infringed re-issued letters patent granted to him October 1, 1867, for an "improvement in putting up powders, etc." The claim contained in the specification annexed is in these words: "What I claim, as a new article of manufacture, is a package or case, which, when made with distributing holes and filled, is cemented by the wax or wafer, as set forth."

The specification and the specimens of the manufacture produced, show that what the plaintiff claims as an invention, is a small cylindrical box, perforated at the end after the manner of a pepper or sand box, for the purpose of conveniently and evenly distributing the powder contained within it, when put to use, and the closing of these perforations by wax, or wafer, or paper, pasted or made to adhere by mucilage or some glutinous substance, for retaining the powder when sold and transported by the manufacturer, dealer, or customer, the wax or wafer being removed, or the paper punctured, when it is desired to use the powder. I am decidedly of opinion that, in this device, there is no patentable invention. Pepper-boxes, sand-boxes, dredge-boxes, and spice-boxes, either of which is exactly adapted to the distribution of powder of any kind, are not new, and are not claimed to be new. In construction and effect, they are substantially like, and, in mechanical structure, identical with, the plaintiff's cylindrical box, perforated at one end for the distribution of the powder. In respect of distribution, the plaintiff employs no new means and produces no new result. The closing of packages of various forms, and of bottles, by wax, or wafer, or the pasting of paper, made to attach itself by the use of gum, or other adhesive material, is no more new than the other; and, when those or either of them are applied to the openings in the plaintiff's boxes, they produce no new result. They close the openings, and that is all. They are old means, and they produce their old and obvious, well-known result. In combination, there is no other effect. Each performs the same office, in the same manner, as it does when employed for any other purpose, and precisely as it must, whatever be the form of the package, or the particular use to which the package is applied. The employment of these instrumentalities, in putting up packages for transportation

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is, therefore, the exercise of judgment in selecting, not of invention in devising or combining. At most, it consists in applying old devices to a new use, which, when it involves no new means and produces no new effect, is not patentable, notwithstanding it may be useful to combine the two results, by uniting the two instrumentalities.

But this is not all. The proof shows that, long before the plaintiff's supposed invention, paper-boxes and sand-boxes, with a perforated end, were not only used for the convenient distribution of their contents, but were put up for transportation and sale, with the perforations covered by thin paper pasted thereon, to be removed or punctured when actually used.

I find no ground upon which to sustain the claim of the plaintiff to any decree herein. The bill of complaint must be dismissed, with costs.

FREDERICK MEISSNER AND OTHERS

vs.

THE DEVOE MANUFACTURING COMPANY. IN EQUITY.

The letters patent for an "improvement in stop-valves for petroleum packages," granted to Albin Warth, April 19, 1870, make, in each one of their two claims, a cup-shaped disk a material part of the invention, such disk being a valve-seat for a valve, and having the effect, by reason of being cup-shaped, to sink the valve within the package, so that there shall be no part projecting outside.

The patentee must stand or fall by the claims as made.

The cup-shaped form of the disk is made, by the specification and claims, an essential part of the invention.

Such patent is not infringed by a stop-valve of convex form, not suspended below the surface of the package, though in other respects constructed like the patented arrangement.

(Before WOODRUFF, J., Southern District of New York, January, 1872.)

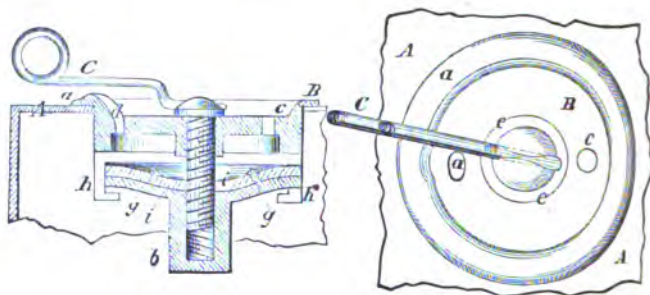
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Meissner v. Devoe Manufacturing Co.

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for an "improvement in stop-valves for petroleum packages," granted to Albin Warth, April 19, 1870, and assigned to complainants.

The invention is well illustrated in the accompanying engraving, and is thus described in the specification :



"This invention consists in the arrangement of a cup-shaped flanged disk, provided with a vent-hole, with a discharge opening, and with a central hole, and with a flat internal face, said central hole being intended to receive a screw, which is tapped into the solid body of a valve covered with leather or other suitable packing, in such a manner that, by means of its flange, the disk can be readily soldered to the side of a petroleum package or case for carrying petroleum or other liquid, without producing an objectionable projection on said package, and that, by turning the screw in and out, the valve can be readily opened and closed, the valve being prevented from turning with the screw, and from dropping off, by hook-shaped arms, extending from the inner surface of the cup-shaped disk, and bearing against lugs projecting from the periphery of the valve. When the valve is opened, the contents of the case or package can be readily poured out through the discharge-spout, the vent-hole admitting the external air into said case. In the drawing, the letter A represents a case or package made of tinned sheet-iron, or any other suitable material, and capable of containing petroleum or other liquids, particularly such as are intended for transportation. In one side of this case is secured a stop-valve, B, which consists of a cup-shaped disk, provided with a flange, a, and perforated with three holes (see figures 2 and 3), one in the center, to receive the screw, b, and two on the sides; the hole, c, being the vent, and the hole, d, the discharge-opening of the case. The head of the screw, b, is provided with a circular shoulder, to catch under a lip, e, projecting from the edge of the central hole in the cup-shaped disk, and to the bottom of said disk is secured a plate, f, so that the head is confined in a chamber, and prevented from moving in the direction of the axis of the screw. The plate, f, is smoothed off on its exposed surface, so that it forms a seat for the valve, g, and said plate is provided with two hook-shaped arms, h, which form guides for the valve, and prevent the same from dropping off, and also from turning round, said valve being provided with lugs projecting from its periphery, and bearing against the edges of the arms, h. The

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valve, *g*, is cast of Babbitt metal, or other suitable material, and it is provided with a socket to receive the screw, *b*. The face of the valve is covered with a disk, *i*, of leather, or other suitable material, which is retained by studs cast solid with the valve, and riveted over said disk, as shown. The flange, *a*, is soldered to the side of the case, *A*, the head of the screw being situated in the cavity of the cup-shaped disk, so that no part of the valve projects materially beyond the face of the case. By turning the screw, *b*, in the proper direction, the valve and the holes, *c* and *d*, are opened, so that the contents of the case can be poured out through the discharge-opening, *d*, the external air having free access to the interior of the case, through the vent-hole, *c*. By screwing up the screw, *b*, the valve is closed, and the case is hermetically sealed. The nip of the screw, *b*, is dove-tailed, to receive a handle, *C*, of the proper form, for the purpose of operating the same. It (the screw) may, however, be also operated by means of an ordinary screw-driver. If desired, the cup-shaped disk of the valve, together with the hook-shaped arms, *h*, may be produced by casting; and, in this case, the lip, *e*, is omitted, and the screw is prevented from moving in the direction of its axis, by a pin passing through it under the cup-shaped disk, as shown in figure 2. This valve is of particular value for petroleum packages, which are transported across the ocean in very large quantities, and which have to be hermetically sealed, and, at the same time, so constructed that their surfaces have no projecting parts, and that the contents of the package can be readily drawn off."

The claims were as follows :

"1. The cup-shaped disk, suspended within the package, *A*, receiving the screw, *b*, and forming a valve-seat, in combination with the valve, *g*, suspended from the screw between guides, *h*, substantially as and for the purpose described. 2. The vent-hole, *c*, and discharge-opening, *d*, in the cup-shaped disk, in combination with the central screw, and with the valve and the guide-arms, all constructed and operating substantially as described."

John Van Santvoord, for complainants.

George Gifford, for defendants.

WOODRUFF, J.

I deem it highly probable that the stop-valve made by the defendants, when considered in reference to its construction, and its office and functions, as a mere stop-valve, is substantially like that described in the complainants' patent, and that, if the latter had been described and claimed by the patentee independently of the precise form and location of the parts, and of the material office or function which such precise form and location performs in the combination described, the stop-valve of the defendants must have been declared an infringement. But the patentee has seen fit, by his specification and claim, to confine the right secured to him

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within much narrower limits. He does not, in his specification, claim that either part used in the construction of his stop-valve is new, or that any number of the parts, not including a cup-shaped disk, by means of which the whole apparatus is sunk below the outer surface of the oil-can, are new in their combination with each other.

Viewing the device, as described and claimed in either the first or second claim, as a combination of parts not new, the cup-shaped disk is, by each claim, made a material part of the invention. The form of the disk is material. Without the form described, the result at which the invention is directed, and which is represented as its peculiar feature, would not be effected, that is to say, without that form, it would not be a stop-valve which could be applied to packages for transportation, so that their surfaces would have "no projecting parts." It is, therefore, not (as represented in the specification and claim) a case in which form is not of the substance of the combination.

Viewing the device, as described and claimed, as a machine or structure—for all machines and structures are, in a literal sense, combinations of things, old or new—the same observations are applicable. The patentee has made the peculiar disk which he describes, and which forms the valve-seat, a prominent feature. He has done so in both of his claims; and in his specification he represents the immediate and necessary effect of that form of disk, as constituting the peculiarity of his stop-valve and its especial utility.

It is quite possible that he might have claimed this identical stop-valve, useful, and adapted for use, in admitting oil to a can or vessel, inclosing it tightly within the can, and, at pleasure, to be opened for discharging it therefrom, and to be inserted in the end or side of the can or vessel, according to the judgment of the manufacturer of such can or vessel. Had he done this, the question whether the defendants' stop-valve is within the claim would have been a very different one. Here, he has chosen to define the object or result of his invention, to describe the parts thereof, and to specify the form, without which the object in view would not be attained.

The defendants do not use the parts in the same form, nor in an equivalent form, and do not produce the same result. The

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change they have made in the form of the disk constituting the valve-seat, is such as necessarily defeats the purpose for which the complainants' device was intended, and which it accomplishes. The defendants' disk is, therefore, not an equivalent to that used by the complainants. It has not the same effective operation. Instead of suspending the stop-valve below the surface of the can or vessel, by its convex form, it rises, necessarily, above that surface, and carries still higher the parts with which it is connected, thus doing the very thing which the complainants, by the peculiar form of their disk or valve-seat, profess to avoid, and do avoid. The conclusion can not be escaped by saying that the difference is not in the material or essential characteristics of the device, but only in the degree of utility; that the defendants' device is the same in principle and substantial structure, but that, by a change in the form of the valve-seat, by inverting it, the device is rendered less perfect and less useful. Under a specification and claim which might readily be suggested, this reasoning might be entirely just and true, and might render it necessary to pronounce the defendants' device an infringement. But the actual claims can not be rejected. The complainants must stand or fall by the claims as made; and those, not only in terms, but when read and construed with reference to the whole specification, make the form of the disk a part of the complainants' structure, material to its location in connection with the can, and especially material to the function or effect designed to be produced, and, in fact, produced thereby. I think, therefore, that, under this patent, the complainants can not reject the form of the valve-seat, and the location of the structure within the can, and allege that any form of valve-seat, and any location of the stop-valve, however projecting above the surface of the can, is an infringement of their claims, provided, in other respects, it is substantially like theirs. I think that, in all other respects, the defendants' stop-valve does include the complainants', and all of its parts, in substantially the same form and manner of combination, and operating in substantially the same way, and producing the same result. The difference in the nut and screw, in the guide, and in the contrivance for preventing the turning of the valve, are not changes in the principle or in the manner of operation, which would re-

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lieve their stop-valve from condemnation as an infringement. They are a mere substitution of equivalents. For this reason, it seems not improbable that the conclusion to which I am compelled, is not because the actual invention of the complainants has not been infringed or copied by the defendants, but because the specification and claims upon which the patent is granted have so narrowed the ground on which they stand that they fail to realize all the monopoly to which, in virtue of the actual invention, the patentee may have been entitled. If this be so, the court is, nevertheless, unable to relieve them. We can only deal with the rights of the complainants as they are defined in and secured by the letters patent; and, as there defined, my conclusion is that the defendants' stop-valve is not an infringement.

The bill of complaint must, therefore, be dismissed, with costs.

EDMUND H. GRAHAM AND WANTON ROUSE

vs.

WILLIAM MASON. IN EQUITY.

Where the patented invention consisted of a "bridle-motion" attachment for looms: *Held*, that the complainants had no right to any portion of the profits which the defendant made upon the looms to which the infringing mechanism was attached.

Where a patentee is entitled to profits, he is entitled to any profit the infringer has made by the unlicensed use of the contrivance included in the monopoly, and of that alone without regard to profit or loss on the whole structure or machine of which such mechanism forms a part, and without recoupment for losses on other infringing mechanisms made or sold.

Where the infringer has made a profit on one fraction of the mechanisms made and sold, but has met with losses on a larger fraction, so that a correct account of the whole operation would show a loss on the total manufacture; in such case, if the patentee, with a full knowledge of all the facts, should bring his bill declaring specifically for the infringement by the manufacture only of those specified mechanisms, in the making and selling of which the infringer had made profits, he would certainly be entitled to recover the profits thus made.

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He is also entitled to such profits on a bill counting generally against the infringer, without offset or deduction for losses made in the manufacture and sale of other infringing mechanisms.

Where the infringer made a part of the mechanism after a pattern of his own, which pattern, however, was an infringement of the patent: *Held*, that the question of profits was not affected by the fact that he could make the infringing contrivance cheaper than he could make the contrivance in the exact form and shape described in the patent.

The rule with regard to the renovation and repair of licensed machines does not apply to cases of infringement.

Where the defendant had sold repairs upon infringing mechanisms previously made and sold by him: *Held*, that he must account for profits on the repairs, as well as upon the original machines.

Where the defendant had given to complainants a valuable consideration, in full satisfaction of their rights, as against the parties who had purchased infringing machines from said defendant, but without prejudice to their rights as against the defendant himself: *Held*, that the amount thus paid was not a legitimate charge against the manufacture, and could not be deducted in accounting for profits.

(Before SHEPLEY, J., District of Massachusetts, January, 1872.)

EXCEPTIONS to master's report, in the case of *Graham v. Mason*, ante, 1.

The facts are fully stated in the opinion.

J. E. Maynadier, for complainants.

Benjamin Dean, for defendant.

SHEPLEY, J.

The master reports in this case that since the date of the last reissue of the plaintiffs' letters patent, May 28, 1867, the defendant "has manufactured certain 'bridle-motions,'" being the same mechanism pronounced by the court to be an infringement of the plaintiffs' patent in this case; and he annexes an account of the profits resulting from this manufacture, in a schedule marked A, making a part of his report. The master further reports that the defendant made and sold said "bridle-motions" after said reissue, with and as a part of looms manufactured in his establishment; that the profits resulting from the manufacture of said "motions," so sold, have mingled with the profits of the manufacture of said

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looms. The cost of making said looms during the time under inquiry was \$59.63, including said "bridle-motion." The cost of making said motions was forty-five and one-half cents each, or ninety-one cents for each loom. The profit resulting from the manufacture of said looms complete with said "bridle-motion" was \$5.64 for each loom.

Defendant contended that the plaintiffs were entitled to claim, as profit resulting from the manufacture of said "bridle-motions" when sold with the looms and as a part thereof, only a sum that would bear the same proportion to said sum of \$5.64, the whole profit, that ninety-one cents, the cost of the pair of "bridle-motions," would bear to \$59.63, the cost of the whole loom, which would be eight and six-tenths (8 6-10) cents.

The master declined to adopt that rule, and on that ground the defendant excepts to his report.

In the opinion of the court, the rule contended for by defendant was clearly erroneous. The complainants had no right to any portion of the profits which the defendant made upon the looms to which the infringing mechanism was attached. Although in the case of *Seymour v. McCormick*, 16 Howard, 480, the court was called upon to adjudicate upon the question of damages in an action of law for the infringement of the patent, much of the reasoning of the court, and many of the distinctions there laid down, are equally applicable to the determination of questions of profits, recoverable by bill in equity.

Especially applicable are the two illustrations adverted to by the distinguished justice of the Supreme Court of the United States, who delivered the opinion in that case. The unauthorized use of Stimpson's patent turnout on a railroad would not involve a liability to account for the profits of the road; nor could the profits made by the railroad in the case of the infringing turnout be measured by any ascertained ratio of the profits on the road. The patentee of a steam-whistle or a cut-off is not entitled to all the profits made on the manufacture of a locomotive engine by one who may have used his improvement without his license. So, if the manufacturer of the locomotive engine has sold it at a higher price than he would without the addition of the patented cut-off or whistle, or if he has in any way made a saving of expense or a profit to himself by the piracy of the patented improvement, the patentee is entitled

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to recover that profit without regard to the fact that the infringer has made no profit on the manufacture and sale of the whole machine to which he has attached the patented contrivance or mechanism.

In making up the account of profits, the master sometimes takes into account the cost of the whole number of infringing mechanisms or contrivances made by the defendant, and the proceeds of all the sales, and gives the patentee the net profits on the whole amount manufactured. This would be a correct rule in some cases, but it would not be just to the patentee in cases where the infringer had made profits on one fraction of the whole number made and sold, and, through defective manufacture or unskillful management of his business, had met with losses on a larger fraction, so that a correct account of the whole operation would show a loss on the total manufacture. In such a case, if the patentee, with a full knowledge of all the facts, should bring his bill declaring specifically for the infringement only by the manufacture of those specified mechanisms in the making and selling of which the infringer had made profits, he would certainly be entitled to recover the profits thus made. It is not easy to see why he is not entitled to such profits in a bill counting generally against the infringer without offset or deduction for losses made in the manufacture and sale of other infringing mechanisms.

It must be apparent to the most superficial observer of the immense variety of patents issued every day, that there can not, in the nature of things, be any rule of damages or any rule for estimating profits which will equally apply to all cases. The mode of estimating profits or damages must necessarily depend on the peculiar nature of the monopoly granted. *Seymour v. McCormick*, before cited. Where the patentee is entitled to damages, the rule must be so modified as to afford him indemnity and give him the actual damage he has suffered by the infringement. Where he is entitled to profits, he is entitled to any profit the infringer has made by the unlicensed use of the contrivance included in the monopoly, and of that alone, without regard to profit or loss on the whole structure or machine of which such mechanism forms a part, and without recoupment for losses on other infringing mechanisms made or sold. The mode of computation adopted by the master in this case appears to have been correct

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and just ; and the exception to his report, because he did not adopt the rule contended for by the defendant, is overruled.

Exception is also taken to the master's report because he reported \$451.56 as the profits on 414 "bridle-motions," sold separately from looms, while defendant contends that a portion of those profits were due to the defendant's use of a pattern of his own making ; also, because he reported as profits the sums of \$218.89 and \$576.75 on parts of "bridle-motions" sold to repair and restore other "bridle-motions," once estimated by the master, and also for the reason that the profits were increased by the use of a pattern made by the infringer. As the motions and parts of motions were all infringements, and the pattern made by the defendant was an infringement, the profits allowed were only on infringing mechanisms. It does not affect the question of profits because the infringer could make his infringing contrivance cheaper than he could make the contrivance in the exact form and shape described in the patent. Nor does the rule with regard to the renovation and repair of licensed machines apply to cases of infringement. The report of the master as to these items is sustained, and the exception overruled.

The remaining exception of the defendant to the master's report is because the master refused to allow, in reduction of the defendant's profits, the sum of one thousand dollars, paid by the defendant according to the terms of a paper annexed to the report, and marked "D." It appears that the patentee, being about to proceed against the persons and corporations who were using the "bridle-motions" purchased of Mason, the defendant ; to prevent them from being harassed by such suits, the defendant paid, and the complainants received, the sum of one thousand dollars in full satisfaction of the complainants' right to recover against the persons and corporations who were using the "bridle-motions" purchased of the defendant, and as a tariff for the future use of such motions. But it was expressly stipulated and agreed, in the paper marked "D," "that this settlement does not affect in any manner our (the complainants') right to recover profits or damages from Mr. Mason for his infringement of said patent, and that the suit of *Graham et al. v. Mason* shall proceed precisely as if this settlement never had been made."

The master was correct in refusing to deduct this sum, re-

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ceived under this agreement, from the profits, or adding it to the cost of manufacture. The exception is therefore overruled.

The complainants' exception to the master's report is also overruled for reasons already stated.

The master's report is approved. Final decree to be drawn up and submitted to the court for the amount of profits (\$3,329.40), according to schedule "A," annexed to the master's report, with costs.

EDWARD A. L. ROBERTS

vs.

F. A. ROTER. IN EQUITY.

Roberts' method of exploding torpedoes in oil-wells is distinguished from all others by the use of a fluid tamping in deep wells of small caliber, the intended effect of which is to give a lateral direction to the force of the explosion.

It is not the use of water distinctively, but water as a fluid merely, that is contemplated by the patentee.

Benzine, or any other substance possessing the fluid property of water, is within the scope of the patent, and is a manifest equivalent.

If the desired effect can be produced by the use of a shorter column of fluid than the patentee describes, it is still an infringement of his patent.

(Before McKENNAN, J., Western District of Pennsylvania, January, 1872.)

MOTION for provisional injunction.

Suit brought on letters patent for "improvement in method of increasing capacity of oil-wells," granted to complainant November 20, 1866, for seventeen years from May 20, 1866.

The nature of the invention is fully set forth in the report of the case of *Roberts v. Dickey*, 4 Fisher, 532, where the specification is given in full.

Roberts v. Roter.

Bakewell & Christy, for complainant.

George Shiras, Jr., for defendant.

McKENNAN, J.

In *Roberts v. Dickey*, 4 Fisher, 532, the complainant's patent for a method of increasing the capacity of oil-wells, etc., was earnestly contested, but its validity was sustained in an elaborate opinion delivered by Mr. Justice Strong, which expressed the views of both the judges who heard the case. The counsel for the defendant properly assumes that, so far as the present motion is concerned, the validity of the patent is not an open question. But he opposes the motion on the ground that, as the patent is expounded in the opinion referred to, the respondent has not infringed it. His argument is: 1. That Roberts is limited to the employment of water as a tamping agent, and that, therefore, the substitution of benzine for that purpose is not within his patent; and, 2. That filling the well with fluid tamping to the top is an essential element of Roberts' method, and that it is not infringed by the use of such tamping, extending only to within fifty or one hundred feet from the bottom of the casing in the well.

I propose only to notice the able argument of the counsel by stating the conclusions which I have reached in reference to it. 1. Construing Roberts' patent as must be done with reference to the previous state of the art, his method is distinguished from all others by the use of fluid tamping in deep wells of small caliber, the intended effect of which is to give a lateral direction to the force of the explosion, and thus, by shattering the walls of the wells, to open new seams for the liberation of oil or to clear out obstructions in seams already opened. It is apparent that the employment of water distinctively is not contemplated, but water as a fluid merely, because it is its agency as a fluid only, which the patentee describes, as essential to effectuate his method. This is the import of the opinion in *Roberts v. Dickey*. It follows that the use of benzine, or any other substance possessing that property of water which is made available in the patentee's process, is within the scope of the patent, as a manifest equivalent. And this is so, whether the object be to open new seams or to remove

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obstructions from old ones. 2. The function of the tamping is to confine the force of the explosion to the vicinity of the torpedo. A superincumbent column of fluid of sufficient gravity to accomplish this, is all that is needed to the complete effect specified by the patentee as the object of his process. If this effect is produced by filling the well only half full, or by means of a shorter column of fluid, all is done that the patentee's process requires. Any one, therefore, who produces the result contemplated by the patentee, by such use only of the described means as is essential to that end, uses his process and is an infringer.

At my suggestion, the arguments of counsel were written out and printed, and, together with the affidavits on both sides, were submitted to Judge Strong; and he authorizes me to say that, after a careful examination of them, he concurs in the conclusions above stated, and in the allowance of the complainant's motion.

A preliminary injunction is therefore ordered.

WILLIAM TUCKER

vs.

NATHAN W. SPAULDING.

When suit for the infringement of a patent is brought in the law in preference to the equity side of the court, the question of the diversity or identity of the invention covered by plaintiff's patent, with an alleged prior invention, must be submitted to the jury, if there is such resemblance as raises the question at all.

Where the bill of exceptions showed that, in a suit at law for the infringement of a patent, the court below refused to admit the testimony of experts to prove the identity of the invention with that covered by another patent, confessedly prior in date to that of plaintiff, and refused to permit such prior patent to be read to the jury: *Held*, that these rulings were erroneous, and a new trial ordered.

Where an instrument for "cutting tongues and grooves, mortises, etc.," was set up as invalidating a patent for a saw in some respects similarly

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constructed: *Held*, that if what the former instrument actually did, was in its nature the same as sawing, and its structure and action suggested to the mind of an ordinarily skillful mechanic this double use to which it could be adapted without material change, then such adaptation to the new use was not a new invention, and was not patentable.

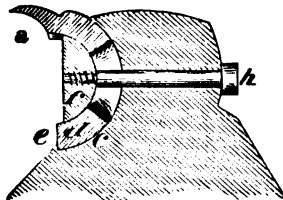
(Before the Supreme Court of the United States, February, 1872.)

WRIT of error to the Circuit Court of the United States for the District of California.

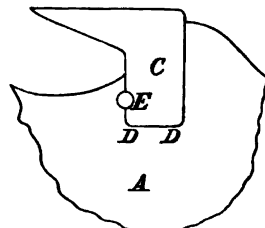
The suit was brought by Nathan W. Spaulding for an alleged infringement of letters patent for an "improvement in saws," granted him September 10, 1861, and reissued April 21, 1863, the improvement consisting substantially in the use of detachable teeth, secured in sockets in the saw-plate, by means of rivets, and having the front, back, and base formed on right lines, while the corners were made circular.

The defendant, for the purpose of disproving the novelty of the patented invention, offered to the court and the jury a certified copy of certain letters patent for a "new and useful method of securing cutters to rotary disks," granted to Jonah Newton, June 19, 1855.

The object of the Newton invention, as stated in the specification, was for "cutting tongues and grooves, mortises, etc.;" and the patent showed a plate of square form hung upon a rotating shaft, and having a projection at each angle. In these projections there were formed concave seats, and a corresponding form was given to the cutters, which were then secured in said seats by means of screw-bolts passing through the cutters and the projections, and lying in the plane of the disk.



Newton.



Spaulding.

The construction of the two devices will be readily understood from the accompanying drawings.

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The defendant further offered to prove by experts that the process described in the said patent, the machines made thereunder, and the result produced thereby, were substantially the same process, machine, and result, as were involved in plaintiff's patent.

The court, upon objection made by plaintiff's counsel, held that the said Newton patent was not for the same invention as that described in plaintiff's patent, and was inadmissible, and consequently excluded it from the evidence. The court also excluded from the consideration of the jury the testimony of experts, offered to prove that the cutters in the Newton patent were, in reality, nothing but detachable saw-teeth, inserted on circular lines, and rounded at the base, and inserted in circular sockets in such a way as to secure an equal distribution of the pressure brought to bear upon the cutters over and upon the sockets in which they were set, and thus prevent the fracturing of the disk or plate—the thing which formed the special object of plaintiff's invention.

Exception was duly taken to these rulings of the court; and, upon such exceptions, the case was considered by the Supreme Court.

Various other exceptions were taken to the rulings of the court below; but, as the above are the only points considered, no special mention need be made of the others.

W. C. Witter and *George Gifford*, for plaintiff in error.

M. A. Wheaton and *J. J. Coombs*, for defendant in error.

MILLER, J., delivered the opinion of the court.

This is an action at law to recover damages for the infringement of a patent for the use of movable teeth in saws and saw-plates. A verdict and judgment were rendered for the plaintiff, Spaulding; and the other party assigns in this court several errors in the rejection of evidence offered by him and in the charge of the court to the jury.

We are of opinion that the court erred in refusing to admit a patent to Jonah Newton, confessedly prior in date and invention to that of the plaintiff, which the defendant offered as covering the subject matter of the plaintiff's patent.

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Other bills of exceptions were taken to the rejection of the testimony of experts, to prove the identity of the invention described in the Newton patent with that of plaintiff; but the cardinal point in the case is the refusal of the court to permit the Newton patent to be read to the jury.

Whatever may be our personal opinions of the fitness of the jury as a tribunal to determine the diversity or identity in principle of two mechanical instruments, it can not be questioned that when the plaintiff, in the exercise of the option which the law gives him, brings his suit in the law in preference to the equity side of the court, that question must be submitted to the jury, if there is so much resemblance as raises the question at all; and though the principles by which the question must be decided may be very largely propositions of law, it still remains the essential nature of the jury-trial, that while the court may, on this mixed question of law and fact, lay down to the jury the law which should govern them, so as to guide them to truth and guard them against error, and may, if they disregard instructions, set aside their verdict, the ultimate response to the question must come from the jury.

The patent of plaintiff claims the forming of recesses or sockets in saws or saw-plates for detachable or removable teeth on circular lines, and in combination with these recesses, teeth, having their base or bottom parts formed on circular lines, as described. Newton's patent had cutters of the same general shape and form, including circular base, as the saw-teeth of the other patent, attachable to a circular disk, and removable as in the other, but attached by screws or nuts; and the claim or purpose of the Newton patent is for cutting tongues and grooves, mortises, etc.

The court, in rejecting the patent, seems to have been governed mainly by this use which was claimed for it, and also by the fact that no mention is made of its adaptability as a saw. But, if what it actually did is in its nature the same as sawing, and its structure and action suggested to the mind of an ordinarily skillful mechanic this double use to which it could be adapted without material change, then such adaptation to the new use is not a new invention, and is not patentable. The defendant offered to prove by experts that such was the relation of the principle of the Newton patent and plaintiff's patent, and we are clear that the resem-

Tucker v. Spaulding.

balance was close enough to require the submission of the question of identity to the jury, and the admission of the testimony of experts on that subject.

This subject was fully considered in the case of *Bischoff v. Wethered*, 9 Wall. 812, decided since the present writ of error was issued.

This court has no more right than the court below to decide that the one patent covered the invention of the other, or that it did not; and it is obvious that extended argument here, to prove such general resemblance as would require the submission of both patents to the jury, might prejudice plaintiff's case on the new trial which must be granted. We therefore forbear to discuss the matter further, and for the same reason we refrain from comment on the instruction.

It is to be understood that in declining to pass upon the other alleged errors of the record, this court neither affirms nor overrules the action of the court on these points; and the case is reversed for this fundamental error, which includes several others resting on that.

The judgment of the circuit court is reversed, and a new trial ordered.

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Fales v. Wentworth.

JOEL F. FALES ET AL.

vs.

FREDERICK B. WENTWORTH. IN EQUITY.

GEORGE W. CHIPMAN ET AL.

vs.

FREDERICK B. WENTWORTH. IN EQUITY.

Strong doubts being entertained as to the validity of a patent, a preliminary injunction was refused.

Where the patent claimed "a carpet-lining, composed of soft sheet fibrous material, surfaced or protected, not only on its opposite sides, but also around its opposite edges," as security against dust and moths, the described method of forming it being to leave the fibrous lap narrower than the surfacing sheets, and then to unite the overlapping edges of these sheets by paste or cement: *Held*, that a lining formed by inclosing the fibrous lap in a single wide sheet of paper, the edges of which overlap along the center of the fibrous material, being likewise secured to each other and to the filling by stitching, constitutes an infringement.

It is a familiar rule of law that a patent upon an improvement does not, *per se*, give the right to use the thing improved upon.

In order to make his patent available, the patentee of an improvement upon a patented article must have the consent of the original patentee, where he can not use his improvement without using the patented thing improved upon.

(Before SHEPLEY, J., District of Massachusetts, February, 1872.)

MOTIONS for provisional injunctions in two suits, brought by Joel F. Fales and George W. Chipman, against Frederick B. Wentworth, upon two letters patent for "improvement in carpet-lining;" the first granted to complainant Fales, February 27,

1866, and reissued March 14, 1871; and the second granted to complainant Chipman, December 18, 1866, and reissued July 12, 1870.

The nature of the two inventions and the claims are sufficiently set forth in the opinion.

B. F. Brooks and *J. D. Ball*, for complainants.

J. G. Abbott and *C. S. Lincoln*, for defendant.

SHEPLEY, J.

The patent of Fales, upon which the bill in equity first named was filed, was granted February 27, 1866, and reissued March 14, 1871.

The Chipman patent, upon which the second bill is based, was granted December 18, 1866, and reissued July 12, 1870.

The claim in the Fales reissued patent is for a carpet-lining, substantially as described, the filling of which and the paper adjoining such filling are retained together by means of stitching.

The carpet-lining described in the specification and drawing was "a sewed or quilted carpet-lining," * * * "composed of a filling, such as a layer of cotton, or some equivalent material, contained between two surfaces of the paper employed to inclose said filling," * * * "the stitches or sewing retaining the filling and adjoining surfaces of the paper, * * * being applied in rows running lengthwise of the carpet-lining, and they pass through from surface to surface of the paper, thereby connecting the adjoining surfaces and the filling together."

The claim in the Chipman patent is for "a carpet-lining composed of a lap of soft sheet fibrous material, surfaced or protected, not only on its opposite sides, but also around its opposite edges."

After describing the invention as obviating the objection of want of unity of the parts in carpet-linings previously patented or in use, and also obviating the objection that dust and moths accumulated in the fibrous filling along the open edges of the paper or other fabric with which the fibrous lining was surfaced, he describes his invention as consisting "in inclosing the lap of fibrous material between two surfaces of paper when the lap is also en-

Fales v. Wentworth.

veloped or surrounded at its edges, so that, in effect, the lap is inclosed in a bag-like or flat tube-like wrapper, both broad surfaces, and the opposite edges being all protected, instead of having only the top and bottom surfaces protected with paper left open at the edges, as in all capet-lining of this kind made previous to my invention."

In practice, the Chipman carpet-lining was made by leaving the fibrous material narrower than the sheets of paper between which it was placed, and then uniting the edges of the surfacing sheets, which extended beyond the layer of fibrous material, by paste or cement, thus rendering it impervious to moths or dust.

This is described in the patent as one mode in which the invention may be practiced; but the claim is broader, as before stated, covering, in fact, any carpet-lining composed of a sheet of fibrous material inclosed in a bag or bag-like, or flat tube-like wrapper, thus surfaced or protected not only upon its opposite sides, but also around its opposite edges.

Briefly stating the claims of the two patents so far as the claim of novelty is concerned (the use for this purpose of the materials named being old), the Fales patent claims the use of sewing or quilting together the lap and the surfacing material, and the Chipman patent the enveloping or inclosing the lap in a bag-like or flat tube-like wrapper.

In view of the state of the art at the date of the Fales patent, and the fact that sewing or quilting fibrous material, interposed between two opposite surfacing fabrics, was in common use, the court entertains so much doubt of the validity of the broad claim in the Fales reissued patent as to be unwilling to issue the preliminary injunction at this time, leaving the question of the validity of the patent to be decided on a final hearing of the case. The motion for an injunction in the case of *Fales et al. v. Wentworth* is therefore denied.

The carpet-lining manufactured by the respondent, and alleged to infringe the Chipman patent, is made by inclosing the lap of fibrous material in a single sheet of paper. The lap of soft fibrous material is first deposited on the central portion of the paper, and the paper is then folded over the lap, the two edges of the paper overlapping each other over the center of the fibrous material, where they are secured to each other and to the lap by

a line of stitching through the lap. This is evidently an improvement over any of the other carpet-linings in use. It dispenses with the use of any paste or cement, the use of which is objectionable as attracting moths and other insects, and it allows the lap to extend the entire width of the lining. But it does also embody the invention claimed in the Chipman patent, of inclosing the lap in a flat tube so that the lap is surfaced or protected, not only on its opposite sides, but on its opposite edges.

Although the defendant is manufacturing the Wentworth "star" lining under a patent; and although the article manufactured by him is manifestly an improvement over that patented to Chipman, yet it is a familiar rule of law that a patent for such an improvement does not, *per se*, give the right to use the thing improved upon. In order to make his patent available, the patentee of an improvement upon a patented article must have the consent of the original patentee, where he can not use his improvement without using the patented thing improved upon. The affidavits do not make out a case of knowledge or use prior to the date of Chipman's invention; and for the purposes of this hearing, we must consider the reissue of the Chipman patent to have been rightfully granted by the Commissioner of Patents, as, upon the face of the reissued patent, it does not appear to have been for an invention not within the terms of the description in the original patent.

In the case of *Chipman et al. v. Wentworth*, the injunction is to issue, as prayed for in the bill, unless the respondents give a bond, in a sum to be fixed by the court, to respond in such damages, if any, as may be awarded upon final decree, for any infringement of complainant's patent between the date of this decree and the final decretal order in the cause; and a decree may be drawn up accordingly and submitted to the court.

Murphy v. Eastham.

THOMAS E. MURPHY ET AL.

vs.

WILLIAM W. EASTHAM AND GEORGE G. MORRIS. IN
EQUITY.

Things relied upon to defeat a patent on the ground of prior invention, but which were never put upon the market, never came into practical use, were never sold, and were not thought worthy of preservation, held to be experimental.

Experiments never made public or brought to the knowledge of a subsequent inventor, and ultimately abandoned and lost, can be no obstacle to such inventor's right to take out a patent.

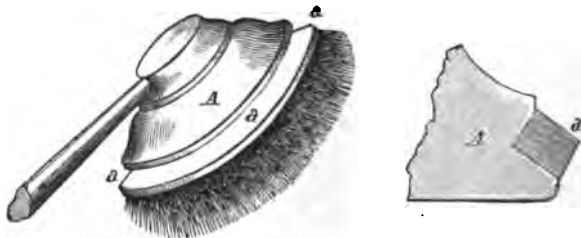
In contemplation of law, after a patentee has described his invention and shown its principles, and claimed it in a form which perfectly embodies it, unless he disclaims other forms, he is deemed to claim every form in which his invention may be copied.

Where the patentee claimed a brush-head provided with an *angular* groove or furrow, and having an India-rubber ring fitted therein as a protection to glass and other substances to be washed or dusted: *Held*, that the rubber would accomplish the same result in the same manner and by the same means, whether its shape be *circular* or *angular*, whether a cross-section of the band be a parallelogram, a rhombus, or—what a circle practically is—a many-sided polygon, and whether the shape of the groove be semicircular or polygonal or triangular.

(Before SHEPLEY, J., District of Massachusetts, February, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for an "improvement in brush-



Murphy v. Eastham.

head," granted to Francis McLaughlin, January 11, 1870, and assigned to complainants.

The invention is fully described in the opinion, and is illustrated in the accompanying drawing, in which A represents the brush-head, and *a, a, a*, the band of rubber, with its projecting edge.

J. E. Maynadier and *J. E. Newton*, for complainants.

C. T. and *T. H. Russell* and *H. W. Suter*, for defendants.

SHEPLEY, J.

Letters patent were issued to Francis McLaughlin on January 11, 1870, for an improved brush. The object of the invention was to obviate the danger of breaking glass and injuring the surface of the wood or other substance to be washed or dusted by contact with the brush-head. To obviate this difficulty, the patentee put around the brush-head or stock a circular band of rubber, in the form of a parallelogram or rhombus, with one of its angles projecting outward, and near the bristles or washing material. A groove was made in the brush-head or stock near the bristles, and in this groove was placed a circular band, the band being made in the form of a parallelogram, so that the ring fitting into the groove or furrow, which had a sharp angle in it, presented a sharp angle outward.

The patentee claimed as his invention the combination and arrangement of the brush-head, constructed as described in his specification, and provided with an angular groove or furrow around the lower side, with the rubber ring fitting therein, as and for the purpose specified.

The defendants, in their answer, deny that McLaughlin was the first and original inventor of the improvement for which the letters patent issued, and which have been assigned to the complainants, and allege that the improvement claimed by him as new was described in letters patent granted in England to W. T. Monzani, June 25, 1854, and set forth in No. 1348 of the volume of specifications of English patents for that year; also in an application made by W. E. Williams to the United States Patent Office, rejected April 1, 1868; also in an application made to said office by J. H. Crittenden, rejected May 22, 1868.

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Defendants also set up prior knowledge and use by said Williams and Crittenden, and by the defendants themselves, and by the firm of Eastham, Harvey & Morris, of which defendants are members. The answer also alleges that the thing patented was in public use and on sale in this country more than two years before the application for the patent.

Monzani's patent was merely for covering with vulcanized rubber those parts of brushes or brooms which in their use are liable to be struck against places or things which are to be dusted or cleaned thereby. It was referred to and described in the specification of McLaughlin, and disclaimed by him.

Crittenden's specification described the same thing substantially as Monzani's. Crittenden claimed the application of rubber, felt, cloth, leather, or any elastic material to the ends and corners of broom and brush-heads, as set forth and described. This application was rightfully rejected. There is nothing in these patents or rejected applications to invalidate the McLaughlin patent. They were probably introduced in evidence only as illustrating the state of the art and aiding in the construction of the claims in the complainants' patent.

Respondents also offer evidence tending to show that, prior to the date of the McLaughlin invention, they made, in the fall of 1867, *first*, a brush with a block or head, with a projecting shoulder, by which a square vulcanized rubber band was attached upon the block for the purpose of keeping the head of the brush from injuring the wood-work; *second*, a similar brush, with a circular groove and a round band; and, *third*, a brush with a cork block or head inserted in a tin cover. Around the edges of this cover was a projecting shoulder, and round the edge of this cover, and held in place by this shoulder, a square vulcanized India-rubber band. Brushes made in the similitude of these three forms of brushes are put into the case. No brush made in either of these forms before the date of McLaughlin's invention is produced in evidence, and there is no reason from the testimony to believe that any one is in existence. The testimony is conflicting as to their form and structure; but it leaves no doubt on the mind of the court that, whatever they were, and whenever and howsoever constructed, they were mere experiments. They were never put upon the market; they never came into practical use; they

Murphy v. Eastham.

were never sold; they were not even thought worthy of preservation; and can not now be found. Such brushes, if previously constructed in the form contended for by respondents, as experiments, and never made public or brought to the knowledge of McLaughlin, and ultimately abandoned and lost, could be no obstacle to his right to take out a patent. /

Considering the patent of the complainants to be good and valid, we proceed to the consideration of the question of infringement. Respondents, by their answer and in the affidavits referred to in the answer, admit infringement by the sale of brushes with the *angular* groove or furrow, and with an *angular* rubber ring fitting therein. They also admit that they do make, and claim the right to make, brushes with a *circular* groove and band, as shown in Exhibit No. 3, which they claim do not infringe the complainants' rights under their patent.

The patentee, in his specification and claim, has only described one geometrical form of groove or furrow, and three geometrical forms for the rubber ring—*i. e.*, the parallelogram, rhombus, and triangle. Perhaps a strict construction of the language would exclude the triangle from the list of forms of the rubber ring in the claim. The patentee does not, as is sometimes done, claim in terms the thing patented, however its form and proportions may be varied; but the law so interprets his claim without the addition of these words. In contemplation of law, after he has fully described his invention and shown its principles, and claimed it in a form which perfectly embodies it, unless he disclaims other forms, he is deemed to claim every form in which his invention may be copied. /

Undoubtedly, in some cases the letters patent include only the particular form described and claimed, not for the reason that the patentee has described and claimed that form only, but because the invention consists in form only, and only in that form can be embodied, so that when the form is not copied, the invention is not used. *Winans v. Denmead*, 15 How. 343. We must look, therefore, into the nature of the invention, and see whether its form and its substance are inseparable. If they are inseparable, then the respondents, having changed the form, do not copy the substance of the invention; but if they are separable, and the substance of the invention which the patent is designed to secure

Hitchcock v. Tremaine.

is to be found in the manufactures of the respondents, although copied and embodied in a form not described, or differing from the form described and specifically claimed by the patentee, then they have infringed.✓

The invention, as described and claimed, is for a brush-head, provided with an angular groove or furrow, with an India-rubber band in that furrow. As the operative part of the rubber band can come in contact with the wood or glass to be dusted or brushed only at one line in the periphery of the band, it can make no difference in the result whether the shape of the rubber is circular or angular; whether a cross-section of the rubber band would be a parallelogram, a rhombus, or—what a circle practically is—a many-sided polygon; or whether the shape of the groove be semi-circular or polygonal or triangular. They would accomplish the same result, in the same manner, and by the same means. Cut away from the defendants' band a segment of the circle on both sides of the line in the periphery of the band where it touches the glass to be brushed, and you have only removed a superfluous and inoperative part; and the same principle, *mutatis mutandis*, applies to the band in the groove and the groove itself. One geometrical form as much as the other may embody the substance of this invention, and copy and use the invention itself.

Decree to be drawn and submitted to the court for an injunction and account, as prayed for in the bill, with costs.

ALONZO HITCHCOCK ET AL.

vs.

CHARLES M. TREMAINE AND WILLIAM B. TREMAINE.
IN EQUITY.

In a suit in equity for the infringement of a patent for a tremolo attachment to an organ, on taking an account of the profits derived by the defendant from dealing in such attachment, it appeared that the defendant dealt in musical instruments not having such attachment, as well as in those having it: *Held*, that a proper part of the general ex-

Hitchcock v. Tremaine.

penses of conducting the defendant's entire business, such as clerk hire, rent of store, and the like, ought to be assigned to the dealing in such attachments, such part to bear the same proportion to the whole of such general expenses, that the sales of such attachments bore to the sales in the entire business.

Such general expenses ought not to be apportioned according to the amount of profits on sales.

The patented attachment being a revolving fan, not including the apparatus for moving the fan, the profits on such apparatus ought not to be allowed.

(Before WOODRUFF, J., Southern District of New York, February, 1872.)

EXCEPTIONS to the master's report in the case of *Hitchcock v. Tremaine*, 4 Fisher, 508.

The nature of the exceptions is sufficiently set forth in the opinion.

Frederic H. Betts, for complainants.

B. E. Valentine, for defendants.

WOODRUFF, J.

✓ I think the estimate of the gains and profits which the master has reported to have accrued to the defendants from the infringement of the patent of the complainants, is erroneous and unjust to the defendants. The complainants have seen fit to proceed against the defendants for the recovery of gains and profits, treating them as trustees in that behalf; and the recovery is to be for what the defendants have realized after deducting their expenses in dealing in the infringing article. The defendants are dealers in musical instruments, including pianos, melodeons, and organs with and organs without the tremolo attachment, which has been decreed to be an infringement of the complainants' patent. See *Hitchcock v. Tremaine*, 8 Blatchf. C. C. 440; 4 Fisher, 508. The conduct of their business necessarily involves certain general expenses, which are as truly expenses of dealing in one class of goods as of dealing in another class. Such expenses as general clerk hire, rent of store, salary of book-keeper, if any, and the like, concern the entire business; and, in any estimate of gains and profits, are properly apportionable to the several kinds of

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business done, or kinds of goods sold, when the profits of either are to be separately stated. For example: to ascertain how much profit is gained by dealing in pianos, let it be assumed that, of the aggregate sales in the business, one-half in amount are sales of pianos. Besides such special expenses as are peculiar to the receipt, transportation, and other peculiar service, if any, which pertains exclusively to the dealing in pianos, the general expenses are to be taken into view, one-half of which belong to the sales of pianos, as truly as the other half pertains to the sale of the other goods. This would be quite obvious if a dealer in goods of several kinds were liable to account to some other persons respectively for the gains and profits which he had made by his dealing in each kind of goods. The gross proceeds of sales of each kind being ascertained, and a deduction from each being made, of such special or peculiar expenses as, in a *pro forma* account, would be chargeable to each, there would remain, for allotment to each account, its proportionate share of the general expenses incurred for the benefit of all, that is, for the maintenance and conduct of the business; and this distribution should be in the proportion of the several amounts of sales of each. It is not just to say, in respect to either, as is argued by the complainants here, that the general expenses are not increased by the presence of one class of goods, and would have been the same if the sales had been confined to the other classes. If that argument were supposed to prevail in an accounting for the profits of sales of one class, it would also prevail in each separate accounting, and so would be allowed in neither.

In the present case, the dealing in organs having the tremolo attachment was a part of the general business of the defendants. These were not sold without involving a part of the general expenses of the business. It may be true that, in a given case, it costs the defendants no more to sell an organ containing the infringing attachment than it would have cost to sell an organ not containing the attachment; but *non constat* that, if the organ sold had not contained such attachment, it would have been sold at all. The complainants are here demanding the profits of that sale. They must take them burdened with the just allowance for those disbursements which enable the defendants to offer the attachments to the public in a salable form, and to keep them in

the market, before the eye and within the reach of customers, and generally to properly conduct the business of selling, and keep due account thereof.

This, no one would for a moment question, if the defendants had kept a store for the sole purpose of dealing in the infringing attachments. Suppose, then, that the defendants, after dealing for a time in attachments alone, to be applied to organs by the purchasers, had concluded that it would facilitate and increase the sale of the attachments if they procured organs, and caused the attachments to be applied, and sold both. This would not affect the principle of computation or allowance of the general expenses, though it would bring in another item of sales to be brought into an apportionment. And yet, in that case, it might be said, as is said here, that it costs no more to sell an organ with the attachment than it would to sell an organ without the attachment.

In this respect the computation by the master in this case is erroneous. He should have permitted the defendants to prove the general expenses of their business, incurred alike to effect the sales of all goods—that is, not specially incurred in reference to any particular class or kind; and these should have been apportioned according to the amount of gross sales, charging the sales of attachments with its relative share.

On the other hand, the master very properly refused to apportion these expenses according to the amount of profits on sales. Whether the defendants made any profits on their whole business or not, is quite immaterial to these complainants. They are not to be deprived of the gains made by selling the infringing attachments, because the defendants made less profits, or even no profits, on the sale of pianos, or, as the case may be, of some other musical instruments. To allow this, would permit the defendants to violate the rights of the complainants, and use the profits thereby gained to cover their losses on other sales.

In regard to the refusal of the master to permit the defendants to show that a portion of the profits on the sale of attachments, as found by him, arose from the sale of certain two parts thereof, which are not embraced within the patent of the complainants, but are patented by other parties, there was also apparent error. It is doubtful, indeed, whether the defendants could have proved

Hitchcock v. Tremaine.

it if permitted; but the principle upon which they claimed to make this proof is not doubtful. The patent is for a device by which the vibration of the air is produced—namely, a fan or other instrument, made to revolve and agitate the air after it has passed the pipes or reeds which cause the sound. The means of moving the fan or beater, the complainants do not claim to be within their patent. Their instrument may be rotated by any convenient means, “such means,” according to the very terms of the specification, “constituting no essential part of the invention.” It is the application of means to the musical instrument by which the air may be agitated to produce a tremulous note, as described—that is, after the air has passed the sound-producing mechanism and the arrangement of the fan or agitator in the instrument, as described; which alone are claimed by the patentee. The motive power, whether pressure on a treadle or other device, or the manner of applying the power so as to cause the motion of the fan or agitator, is not claimed. This is the construction given to the patent by the court. Now, it is only the profits arising from the sale of what is patented, that the complainants should be allowed. Obviously the expense of the apparatus for moving the patented device is to be allowed as a deduction from the proceeds of sale of the whole attachment. That expense has been allowed, in the allowance for the whole cost of the attachment, as sold by the defendants. If the defendants can show that they received an enhanced price for the patented attachment, by reason of its connection, in their sales, with a peculiar mode of producing or regulating the motion, so that the profit or difference between the cost and the price of sale was enhanced thereby, that enhancement is not due to the complainants. But it does not follow that the profits on the whole are to be divided into three equal parts, or into parts proportioned to the cost of the several three parts. The patented improvement must, necessarily, be supplied with some apparatus for producing motion, that is, it must be adapted to use, and the cost of such adaptation necessarily goes into the account in ascertaining the profit on the sale; and unless the defendants can show that the peculiar apparatus by which, in the instruments which they sold, the motion was imparted or regulated, gave them an increased price, not due to the patented improvement, however moved or adapted to use, then the cost of such apparatus alone

 Smith v. Elliott.

is to be considered, as was done by the master in stating the account. And if, upon the proofs, it be found that the price realized from the attachment is due to the patented device for causing the vibration of the air, as described in and claimed by the specification, irrespective of any peculiarity in the mode of producing the motion thereof, then the profits are to be imputed to the complainants' patented device, and to be allowed to them, as was done by the master.

The report must be sent back to the master to enable the defendants to make further proofs in accordance with these views, if they be able.

 WILLIAM SMITH

vs.

HENRY ELLIOTT, EXECUTOR OF JOSEPH T. WHITEHOUSE. IN EQUITY.

The law gives no monopoly to industry, to wise judgment, or to mere mechanical skill in the use of known means, nor to the product of either, if it be not new. It is invention of what is new, and not comparative superiority or greater excellence in what was before known, which the law protects as exclusive property; and it is that alone which is secured by patent.

There are many changes which may be suggested by the judgment or taste of the manufacturer, or by the particular uses to which the article produced is to be applied, which are not invention; and many exhibitions of superior skill in producing an article of greater excellence, which are not invention.

If a fabric be already known and in use, change of color, change of mere material, or change in its degree of fineness—if these changes involve nothing new in construction, nor in the relations of its parts, nor in the office or function of either part—does not constitute invention.

The reissued letters patent for an "improvement in corded elastic fabrics," granted to William Smith, June 30, 1868, division B, the original letters patent having been granted to him April 5, 1853, and subsequently extended, are void for want of novelty.

Smith v. Elliott.

The claim of such reissued patent—namely, “the corded fabric, substantially as hereinbefore described, in which the cords are elastic, and are held between the upper and under weft threads, and separated from each other by the interweaving of the upper and under weft threads with the warp threads, in the spaces between the cords, and only there, substantially as above shown,”—is anticipated by a like fabric, which existed before, although not woven of a width, or fineness, or elasticity, suitable to be used for the gores of boots, and not so used, and although the fabric introduced by the patentee possessed the qualities which fitted it to be used for the gores of boots, and it was so used, and displaced other elastic fabrics before used for that purpose.

The fabric not being new, its application to a new use was not invention. (Before WOODRUFF, J., Southern District of New York, February, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought on letters patent for an “improvement in corded elastic fabrics,” granted to William Smith, April 5, 1853; reissued, in three divisions, June 30, 1868; and extended for seven years from April 5, 1867.

The nature of the invention in controversy is fully set forth in the opinion.

Thomas A. Jenckes, for complainant.

W. C. Witter, Benjamin Dean, and George Gifford, for defendants.

WOODRUFF, J.

This case, and seven other cases, brought by the same complainant, against different defendants, were argued and submitted together, upon like pleadings, and upon the same proofs, under a stipulation that the proofs taken in either should be read or used in all. The bills of complaint are filed to restrain the respective defendants from infringing a patent granted to the complainant, April 5, 1853, and subsequently extended and twice reissued. The patent was last reissued to the complainant in 1868, in three divisions—one described as for “improvements in weaving,” in which the process is claimed; another, entitled, “improvements in looms for weaving,” wherein a certain part of the loom, in combination with mechanism, is claimed; and a third, in which the specification is entitled, “improvement in corded elastic fab-

rics," in which the fabric is claimed by the complainant as his invention. The bills allege that the defendants, respectively, have infringed the last-named division of the reissued patent for the new fabric, which is dated June 30, 1868, and is called "Division B;" and they pray an injunction and an account. Without setting out the answer, it is sufficient to say that the defendants rest their defense on the denial of the novelty of the invention, and upon proofs tending to establish that a fabric, answering fully to the description of the fabric described and claimed in the complainants specification, was made by many persons, and was in public use and on sale in this country several years before the alleged invention by the complainant.

The description in the specification first gives the loom in which the fabric is made, and its operation; then mentions the manner in which corded fabrics have theretofore been produced, and the peculiarities of such fabrics; and then proceeds to describe the fabric claimed to be new. Modified by a disclaimer, made pending these suits, the description is as follows: "The features which distinguish my improved corded fabric from all others before known are as follows, viz: The cords are longitudinal, and may be termed cord warps. They are separated from each other by the interweaving of the warp threads and weft threads, * * * between the cords only, and not over and under the cords; and the cords are covered on both surfaces by weft threads only. The weft threads are not interwoven with the cords, * * * but each weft thread passes either over or under all the cords, instead of passing first under one cord, and then over the other, and so on across the fabric; and it is interwoven only between the cords, and only so interwoven with the warp threads. The fabric being so constituted at every part of the length, the cords are gripped between two weft threads, one above and the other below, which two weft threads are drawn each half-way around each one of all the cords, by being interwoven with the warp threads in the several spaces between the cords." Then, proceeding, in terms to limit himself to such fabrics when the "cords" are elastic, the patentee states his claim thus: "What, therefore, I claim as my invention, in this subdivision of my patent, is the corded fabric, substantially as hereinbefore described, in which the cords are elastic, and are held between the upper and under weft threads,

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and separated from each other by the interweaving of the upper and under weft threads with the warp threads, in the spaces between the cords, and only there, substantially as above shown."

The proofs herein indicate that the plaintiff, at or about the date of his patent, produced a woven elastic fabric of great utility, adapted to purposes for which no similar fabric before made in this country was suitable, possessing a beauty of finish and texture most desirable and attractive, and having firmness and durability, combined with great elasticity, to a degree not before found in any fabric in the market. Although the purposes for which it might be used were several, its most important use was for gores inserted in the tops of gaiter boots, to be stretched in drawing on the boot, and, by contraction, binding the top of the boot firmly around the ankle after the boot was drawn on. Made of silk, or silk and cotton, warp and weft, the latter covering elastic cords (India-rubber being, in practice, used therefor), the threads of silk or cotton being of great fineness, the fabric has a fine glossy appearance. The cords lying very close to each other, the whole is not greatly unlike very rich heavy-corded silk goods found in the stores. The manner in which the weft threads are tightly bound upon the inclosed elastic cords, by the interweaving of the warp threads therewith, holds the cords so firmly that they can not slip or slide; and, hence, the fabric can be cut, and its cut edge may be attached, by sewing, to leather or cloth, etc., without any withdrawing of the elastic cords when stretched in use. By reason of its excellence in these and, perhaps, other respects, the fabric has gone into extensive use; and it is alleged that it has occupied the market, and, for the especial purpose of elastic gores in gaiter boots, is the only fabric now used.

✓ The complainant being the meritorious cause or agent in such a result, whether the same is due either to his industry as a laborer, his skill as a weaver, his judgment as an observer and experimenter, or his invention as an originator of either machinery, process, or product, he is entitled to very favorable consideration; and a certain sense of justice would seem to require that, if possible, an adequate reward for the benefit derived therefrom by the public should be secured to him. The law, however, gives no monopoly to industry, to wise judgment, or to mere mechanical skill in the use of known means, nor to the product of either; if

it be not new. These are within the proper field of competition, and open to all. In general, they will, in that competition, be justly appreciated, and will command their proper remuneration, if usefully employed. It is invention of what is new, and not comparative superiority or greater excellence in what was before known, which the law protects as exclusive property; and it is that alone which is secured by patent. / Whether the results attained by the complainant, above mentioned, are due to improved machinery invented by him and secured to him by patent, or are due to a peculiarity in the process of manufacture invented by him and patented, it is unnecessary in this case to inquire. For aught that appears here, either of these may be true; but the defendants are not charged with violating his rights as an inventor of either machine, loom, or process, but only as invading his alleged exclusive title to the product itself.

On that subject, it should be observed that there are many changes which may be suggested by the judgment or taste of the manufacturer, or by the particular uses to which the article produced is to be applied, which are not invention; and many exhibitions of superior skill, in producing an article of greater excellence, which are not invention. Thus, if a fabric be already known and in use, change of color, change of mere material, change in its degree of fineness, or in the fineness of parts thereof—if these changes involve nothing new in construction, in the relation of its parts, in the office or function of either part or of the whole—do not constitute invention, although, for many purposes, these may constitute the greater excellence of the fabric. Indeed, in the present case, not even such changes are claimed in the complainant's specification to have been made; and yet the argument submitted on his behalf dwells largely on peculiarities in the complainant's fabric, as it has actually been made and used, which are of this character only, and largely, also, on the special use to which it has been applied, namely, to the making of gores for boots, and its fitness for such use. But the complainant, in his specification, claims nothing on this ground. In practice, for the making of the fabric, the elastic cords now used are made of vulcanized India-rubber, for greater elasticity, and, perhaps, greater durability; but the claim of the patent is for any elastic cord, of whatever material; and it is by no means clear that,

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when the complainant received his patent, he used vulcanized rubber himself. In practice, for the making of the fabric for shoe gores, silk, upon the upper surface of the fabric, is used, and, no doubt, is required, in order to the beauty and finish desired for that use, and, it may be, for other uses; but the claim of the patent is for any warp threads and weft threads, and this will embrace any fibrous materials from which such threads may be wrought. In practice, the threads used for warp and weft are very fine, by which, first, the cords are permitted to lie very close to each other; and, second, their covering by the weft is very smooth, and so the whole fabric has an evenly and compactly corded surface; but the claim of the complainant embraces warp threads and weft threads of whatever quality or fineness, only limited by the practicability of weaving them in the manner pointed out. In practice, few threads of warp are woven or interlocked between the cords; but the claim of the complainant includes warp threads interwoven with weft threads between the cords, whether such warp threads be few or many. In practice, when such fabric is intended for goring for boots, it is woven of a width corresponding with the length of the gore; but the claim of the complainant makes no discrimination in respect of the width of the fabric claimed. In fact, it is made, for other purposes, exceedingly narrow; and, within the description in the patent, it may be made of any width desired, and for any purpose. In practice, its special adaptation for gores of boots, and its value for that use, is illustrated in the particulars wherein they require fineness, smoothness, finish, durability, and, especially, very great elasticity; but the claim of the complainant is not for any peculiarities in these respects, nor is it for an improved gore at all. If it were conceded that the complainant might have obtained a patent for an improved elastic gore for boots or shoes, founded upon facts appearing in the proof herein, it would, for the purposes of this case, be necessary to say that he has not done so.

Once more: if the fabric be not new, the application of it to a new use is not invention, when nothing novel is required for its adaptation. If the complainant had first invented the combination of an elastic gore with the other parts of a boot or shoe, there might be therein something which was the proper subject of a patent; but this has no bearing on the question, whether the

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elastic fabric of which the gore is made is the complainant's exclusive property.

Aided by the foregoing observations, how stands the present case upon the proofs? The complainant must abide by the specification and claim which he has made. If he has rights which, under that specification and claim, are not protected, the court can not aid him. The question here is: Was the fabric, which he has described and claimed to be his invention, new?

The claim is for "the corded fabric, substantially as hereinbefore described, in which the cords are elastic, and are held between the upper and under weft threads, and separated from each other by the interweaving of the upper and under weft threads with the warp threads, in the spaces between the cords, and only there, substantially as above shown." This claim is, of course, to be construed with reference to the preceding specification; and above I have stated what is material to its full meaning. Width of fabric is not of the substance of this specification or claim. They embrace all widths. Degree of elasticity is of no significance, nor is fineness or coarseness of threads, nor the material of either the threads or cords, nor the number of weft threads, nor the number of warp threads between each cord. All these may be varied indefinitely, and yet be within the specification and within this claim; and the use to which the completed fabric is adapted is in no wise suggested as any test of its likeness to what is claimed, or as at all entering into the complainant's alleged invention.

It is shown, on the part of the defendants, that, several years prior to the alleged invention, a fabric was made extensively, and was in general use, which answers in every particular to this claim of the complainant. It was chiefly used for suspenders, braces, garters, and the like. It was generally made of cotton warp and weft threads, and cords of native India-rubber. True, it was not, in general, of either a color, fineness, width or finish which was suitable for the gores of boots. But it was a "corded fabric," in which the cords were "elastic," in which the cords were "held between the upper and under weft threads, and separated from each other by the interweaving of the upper and under weft threads with the warp threads," and in which this interweaving

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was "in the spaces between the cords, and only there." The testimony of the witnesses is to complete identity, in these respects, with the fabric claimed. A careful examination of the fabrics fails to disclose any difference in the crossing of the threads, in the interweaving, or in any other respect which discredits or contradicts the witnesses; and they are uncontradicted, in fact, on these points, by other testimony. A short mode of disposing of this evidence was repeatedly suggested by the complainant, in the conduct of the examinations before the examiners, namely, by imputing to witnesses fraud and perjury—conduct, on his part, in the course of such examination, deserving severe reprehension; and it may be added that the proceedings before the examiners are returned to the court abounding in improper remarks, prolix statements touching the conduct of counsel, officers of the Patent Office, witnesses, and others, which are not proof, and which ought to have been expunged at the cost of the complainant, before the case was brought to a hearing, or the proofs printed for the use of the court.

The court must deal with the uncontradicted testimony according to the ordinary rules by which evidence is to be weighed; and it is quite clear that the defendants have established the facts above stated. True, these fabrics do not appear to have been woven of a width sufficient for gores of boots. The material does not appear to have been of suitable fineness to render the fabric attractive for that purpose, although there is some evidence which may qualify this observation. Such a use does not distinctly appear to have been made of those fabrics, until the complainant commenced the manufacture. It is, at least, doubtful whether those fabrics had the elasticity which is required for shoe gores; and, in other particulars, there were differences, not in construction or kind, but only in degrees and qualities, not of the substance of the invention claimed.

If the complainant's patent had been prior in date to the manufacture of these fabrics, and was otherwise valid, there is not a doubt—there can be none—that these fabrics are directly within the claim of the complainant, and would have been plain infringements of his patent. This is a rational, and, in general, when they include the whole of an alleged invention, a conclusive test of the originality of the latter.

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It would be a work of supererogation, as well as of great labor, to recite the testimony which establishes that such fabrics were made before the complainant even began his experiments. It runs through the mass of the testimony given by the witnesses examined by the complainant, as well as those examined by the defendants. Those fabrics were made in various colors, and with various differences in ornamentation; some with a large number of threads of warp between the cords, so interwoven as to produce cloth in the intermediate spaces, and some with few threads binding the upper and lower weft threads together; some with a selvage like the complainant's, and some with a round-corded selvage, and some with a cloth edge, which, when it was contracted, formed a ruffle. But the whole substance of the complainant's alleged invention is there, sometimes in its simple and literal exactness, and sometimes with accessories.

I am compelled to say that the fabric, as claimed by him in the specification annexed to his patent, was not new, and that these actions can not be maintained.

The bills of complaint must, therefore, be dismissed.

BENJAMIN C. TILGHMAN

vs.

GEORGE F. MORSE. IN EQUITY.

The letters patent granted to Benjamin C. Tilghman, October 18, 1870, for an "improvement in cutting and engraving stone, metal, glass," etc., are valid.

The use, for ornamenting the surfaces of glass and metal, of the process described in letters patent, for an "improvement in the ornamentation and dressing of the surfaces of glass and other substances," granted to George F. Morse, November 21, 1871, is an infringement of the first claim of said patent to Tilghman, which is, "the cutting, boring, grinding, dressing, engraving, and pulverizing of stone, metal, glass, pottery, wood, and other hard or solid substances, by sand used as a

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projectile, when the requisite velocity has been artificially given to it by any suitable means."

The word "artificially" in such claim, and throughout the specification of the Tilghman patent, covers the falling of sand through a vertical tube, high enough to enable the sand to acquire sufficient velocity to do its work.

Such claim is a claim for a process or art.

The invention of Tilghman consists in the discovery, that a stream of sand, driven with sufficient velocity to cause the grains of sand, through their own velocity and momentum, to act as projectiles against the article to be cut or dressed, will do the work effectually, without any vehicle to carry the sand into contact with the article, and without any contact between anything and the article except the sand.

Such invention was not anticipated by a process in which sand or emery was rubbed against the surface of glass by the wires of a rotating wire-brush; or by the use, on a locomotive engine, of a stream of sand, combined with a jet of steam, to drive cows from the track of a railroad.

(Before BLATCHFORD, J., Southern District of New York, February, 1872.)

MOTION for provisional injunction.

Suit brought upon letters patent for an "improvement in cutting and engraving stone, metal, glass," etc., granted to complainant October 18, 1870.

The nature of the invention is fully stated in the opinion.

George Harding, for complainant.

Charles B. Stoughton, for defendant.

BLATCHFORD, J.

This is a motion for a provisional injunction, founded on letters patent granted to the plaintiff October 18, 1870, for an "improvement in cutting and engraving stone, metal, glass," etc. The specification says: "My invention consists in cutting, boring, grinding, dressing, pulverizing, and engraving stone, metal, glass, wood, and other hard or solid substances, by means of a stream of sand or grains of quartz, or of other suitable material, artificially driven as projectiles rapidly against them by any suitable method of propulsion. The means of propelling the sand which I prefer is by a rapid jet or current of steam, air, water, or other

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suitable gaseous or liquid medium; but any direct propelling force may be used, as, for example, the blows of the blades of a rapidly revolving fan, or the centrifugal force of a revolving drum or tube, or any other suitable machine. The greater the pressure of the jet the higher will be the velocity imparted to the grains of sand, and the more rapid and powerful their cutting effect upon the solid substance. At a high velocity of impact, the grains of sand will cut or wear away substances much harder than themselves. Corundum can thus be cut with quartz sand, and quartz rock can be cut or worn away by small grains or shot of lead. I have sometimes used iron sand, composed of small globules of cast-iron. By the term sand, in this specification, I mean small grains or particles of any hard substance, of any degree of fineness, of which common quartz sand is a type. The hardest steel, chilled cast-iron, or other metal, can be cut or ground by a rapidly projected stream of quartz sand. Articles of cast or wrought metal may have their surfaces thus smoothed and cleaned from slag, scale, or other incrustation. The surfaces of wrought stone in buildings or elsewhere can thus be cleaned and refreshed. By means of stencil-plates, screens, or suitable covering substances, letters or designs can thus be cut or engraved upon hard substances. By varying the shape, number, and direction of the projected streams of sand, and by giving to them and to the articles treated, suitable movements by means of lathes, planing or drilling machines, or other known mechanical devices, cuts or holes may be made of any shape or size. When sand of a brittle nature, such as quartz or emery, is very rapidly projected against a hard material, the grains are broken by the shock into fine powder, and the process may thus be used as a method of pulverization. Where a jet of water under heavy pressure is used, as in hydraulic mining, the addition of sand will cause it to cut away hard and close-grained substances, upon which the water alone would have little or no effect. Pebbles or stones of size and weight as great as can be rapidly projected by the jet of water used will have a battering, penetrating, and dislocating effect, which will assist the disintegrating and scouring action of the water. Heretofore, when sand has been used as a grinding or cutting material, it has been applied between solid substances, moved over each other under heavy pressure, so as to make a

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series of scratches, as in the ordinary cutting of stone or glass, or else in a solidified form, as in a grindstone or sand paper, or sometimes in a semi-fluid state, as when a body is rubbed or moved in a mass of sand. The peculiar feature of my invention, which distinguishes it from other methods of cutting and grinding, is, that each grain of sand acts, by its own velocity and momentum, like a bullet or projectile, and pulverizes, cuts, or indents the object it strikes. From this peculiarity of action, it results that some substances, which, though comparatively soft, are also tough, or malleable, or elastic, and not pulverizable by a blow, such as copper, lead, paper, wood, or caoutchouc, for example, are less rapidly cut and ground by the sand-blast, particularly at moderate velocities, than some much harder substances which are brittle or pulverizable, such as stone, glass, or porcelain. Another peculiarity of the sand-blast is, that the grinding or cutting action takes place upon irregular surfaces, cavities, corners, and recesses hardly accessible to ordinary methods. I believe that steam will generally be found the most convenient impelling jet, particularly for high velocities; but in some localities air or water may be cheaper." The specification then describes, with references to a drawing annexed, a method of carrying the invention into effect, for cutting stone by means of quartz sand projected by a jet of steam. It then proceeds: "For purposes where only a small quantity of material is to be cut or ground away from the surface of a hard substance, and where only a moderate velocity of the sand is required, I have found the current of air produced by the ordinary rotary-fan to be convenient. I have used this method for grinding or depolishing glass, china, or pottery, either on entire surfaces or on surfaces partially covered and protected, so as to produce an engraving of letters, ornaments, or designs. In engraving designs, air is more convenient than steam as an impelling jet, in this respect, that the sand keeps dry and rebounds, leaving the pattern clear; while with steam the sand becomes damp, and is apt to adhere to and clog the fine lines and corners. The sand, being fed into the fan, is carried along by the currents of air, in a tube or close trunk, and strikes upon the glass, which is held or moved opposite the mouth of the trunk, and cuts, grinds, or stars its surface. One arrangement, which I have found convenient for flat glass, is, to

cause the air-current from the fan to descend in a narrow vertical tube of a cross-section, about three feet long by one inch wide, into the top of which the sand is evenly introduced by numerous small pipes, at the rate of about twenty cubic inches per minute for each square inch of cross-section. A traveling apron carries the sheets of glass gradually and regularly beneath the sand-blast, at about one inch distance. The finer the sand used and the less the pressure of the blast, the finer is the grain of the depolished surface. Also, the finer the sand used, the more weak and delicate may be the texture of the covering substance used to produce the design. Good results have been obtained with designs cut in a layer of wax, and with paper or lace pressed close to the glass, and using sand which passed through a sieve of fifty wires per inch, and an air-blast of the pressure of about one inch of water. With sand reduced to very fine powder, and an air-blast of a pressure of eight or ten inches of water, a very delicate depolishing of the surface of glass has been produced. Numerous processes are known and used in the arts for producing, painting, or transferring designs on surfaces. Any of these processes by which a design can be produced or transferred in a sufficiently tough and resistant medium, may be used to prepare a surface for being engraved by the sand-blast. Many natural objects, such as plants, leaves, insects, etc., which can be fastened flat upon a surface, have sufficient strength and resistance to a blast of fine sand to admit of their outline being thus engraved. Glass colored by a thin stratum of colored glass on one surface, may be ornamented by designs cut or ground through its colored stratum. Designs engraved by the sand-blast to a sufficient depth, either in relief or intaglio, on a smooth surface, slate or glass, for example, can be reproduced by known processes of printing. When the sand-blast, at moderate velocities, is directed upon a metallic surface, it removes but little of the metal; but the grains of sand make innumerable small indentations of the surface, and produce a frosted, dull mat, or dead appearance. By using suitable stencil-plates or covering substances, designs or devices can thus be engraved on metallic surfaces. If desired, the sand may be propelled by a current of air produced by suction, or a partial vacuum made in any convenient manner, as by a fan or steam-jet, or any other known machine; or the sand may be impelled by a

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mixed current of steam and air, produced by a steam-jet in the ordinary manner. I have produced some cutting and grinding effects by sand impelled by the force of gravity. A stream of sand fed into the top of a high vertical tube at first falls slowly, but, after the air in the tube is set in motion, the sand gradually falls more rapidly, and can finally acquire velocity sufficient to grind or depolish glass. I have described above several arrangements for projecting the same with the requisite velocity, but I do not mean to confine myself thereto. Any method or arrangement may be used by which sufficient velocity can be artificially given to the sand to enable it to cut or grind the object." The claims of the patent are seven in number. The first claim is the only one which it is proposed to consider in this case, and is as follows: "The cutting, boring, grinding, dressing, engraving, and pulverizing of stone, metal, glass, pottery, wood, and other hard or solid substances, by sand used as a projectile, when the requisite velocity has been artificially given to it by any suitable means."

The defendant is using, for ornamenting the surfaces of glass and metal, the process described in letters patent granted to him November 21, 1871, for an "improvement in the ornamentation and dressing of the surfaces of glass and other substances." The specification of that patent states that "the surfaces of the glass or other substances to be ornamented or dressed, which surfaces may be of plain, curved, or other form, are subjected to the action of a falling or gravitating mass of corundum and emery, which compound constitutes the dressing material, substantially in the manner hereinafter described. The mechanism which I employ consists substantially of one or more hoppers or receptacles for receiving the dressing material, and one or more tubes connecting with the receptacles, for conveniently directing the said material, during its gravitation, upon the glass or other substance to be dressed." The specification then describes, with references to a drawing annexed, the machine to be used. A longitudinal box is divided, by means of partitions, into a series of hoppers, into each of which a mass of the dressing material is placed. Pendant from the center of each of the hoppers is a small tube, about eight feet in length, through which the dressing material descends by gravitation, until it is discharged through the lower end of the

tube. The upper extremity of each tube is provided with a slide-valve, by which the quantity of dressing material which falls through the tube may be regulated or wholly shut off. A shallow tray under each tube receives the dressing material as it is discharged. In each tray is a cushion on which the workman rests the glass-plate or other substance to be dressed. The dressing material is a compound of corundum in powder and emery in powder. These substances having been intimately mixed, are placed in the hoppers, the glass-plates or other substances to be ornamented or dressed are then held beneath the lower extremities of the tubes, and the slide-valves are opened so as to allow the dressing material to descend by gravitation and fall upon the surface of the glass or other substance. The specification says: "The effect of this dressing material is to cut the surface of the glass or other substance, giving it a grained appearance of beautiful hues, even texture, very ornamental and desirable. In order to produce designs of any desired pattern upon the glass or other substance, I place upon the surface thereof a pattern, cut out either in paper, cloth, textile material, metal, paper gelatine, parchment, rubber, gutta-percha, or collodion film, or any other film or suitable substance having such a nature that it will throw off or resist the action of the dressing material; and when the aforesaid patterns are applied to the glass or other substance, and subjected to the action of the dressing material in the manner described, the glass or substance will be dressed or cut only in the open parts or interstices of the pattern, while the parts of the glass or substance that are protected by the pattern will not be cut or acted upon by the dressing material, and thus some portions of the glass or substance will be cut or dressed and the other portions left in their original condition, and the contrasts thus produced will form an ornamental configuration or dressing upon the surface of the glass or other substance. By continuing the action of the dressing material upon the surface of the glass or other substance for a sufficient length of time, in connection with patterns of suitable nature, as described, I form raised patterns having almost any desired degree of relief. In the same manner I also produce intaglio patterns or depressions, to almost any desired degree, in the surface of the glass or other substance. The dressing material, as fast as it is discharged from the hoppers,

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is to be replaced in them again, either by attendants or by suitable mechanism. * * * I am aware of the patent granted to B. C. Tilghman, October 18, 1870, for cutting or dressing with sand projected against the object which is to be dressed or ornamented; and desire to disclaim all that is therein shown and described." The specification states that Morse's invention consists in the machine and in the compound described in the specification and pointed out in the claims. The claims are to, first, one or more hoppers and tubes combined, as described, with a suitable receptacle thereunder for the article to be dressed or ornamented, as and for the purpose set forth; and, second, a compound formed of coarse particles of corundum and emery intimately mixed and applied, as and for the purpose set forth.

There can be no doubt of the great merit and utility of the plaintiff's invention. It has been extensively applied to practical use. The defendant, in his patent, disclaims having been the inventor of anything shown and described in the plaintiff's patent, and confines his claims to the mechanical arrangement of a hopper, a tube, and a cushion in combination, and to the use of the mixed compound of corundum and emery.

It is set up, in defense, that it has, for many years, been customary to deaden or roughen parts of the surface of articles of smooth glass by covering over certain portions with thin sheets of metal or other material, cut out into such shapes as to form or leave patterns or designs, and then subjecting the exposed surface of the glass to the frictional action of some suitable material, produced by such material striking against the exposed portion of the glass. It is not alleged that, prior to the invention of the plaintiff, a simple stream of falling sand or granulated substance was used to wear away or roughen the exposed portions of glass; but it is alleged that it was always known that any solid or liquid material, falling continually on any surface, would wear away the latter, such as a water-drip, or jets of falling water, perforating stone. There is nothing in all this that touches the plaintiff's invention. His invention consists in the discovery that a stream of sand, driven with sufficient velocity to cause the grains of sand, through their own velocity and momentum, to act as projectiles against the article to be cut or dressed, will do the work effectually, without any vehicle to carry the sand into contact with the

article, and without any contact between anything and the article, except the sand.

This view disposes of the apparatus or process described in the provisional specification of John Robinson, in England, of December 13, 1866, for "improvements in ornamenting glass," so as to produce a bright pattern or design on a rough or dead ground on the surface of the glass, or a dead pattern or design on a bright ground, and thus ornament globes or glasses for lamps, and dishes, decanters, and articles of glass in general, and flat or curved sheets or plates of glass. Robinson says that, in ornamenting the glass, he applies, and secures to the glass, plates of metal having the form of that portion of the design which it is intended shall be bright, and then subjects the surface of the glass "to the action of a rotating wire-brush fed with emery or sand and water, or other material capable of roughening or deadening the surface of the glass," and that the surface of the glass is thereby roughened or deadened, except at the parts protected by the metal plates, "the said parts being unoperated upon by the wire brush," and being left bright. He states that if the protecting plates have a pattern cut out of them, a roughened or deadened ornament or pattern on a bright ground is produced. It is urged that this process of Robinson produces an action and effect very similar to that produced by the defendant in the use of a concentrated stream of granulated material falling or poured upon the article to be operated upon, at about right angles to its surface, where there is a greater or less accumulation of the material all the time, and where, during the displacement of the particles, a continuous friction and rubbing on the surface being operated upon, is kept up; that the action and effect so produced by the defendant are not similar to what occurs in projecting, at a high velocity, a very small stream of sand against a surface obliquely; and that the process of Robinson is not a grinding process, but is one in which, by the action of the wires of the brush, the exposed surfaces are deadened or roughened, just as they are deadened or roughened, and not ground away, in the defendant's process. Whether the process of Robinson was practically of any use is not shown, and is left to conjecture. But, even if useful in its employment, the surface of the glass was subjected "to the action" of the wire brush, and the parts roughened or deadened were put

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in that condition by being operated upon by the wire brush, as Robinson expressly states. It is true that the brush was "fed with emery or sand and water." What part the emery or sand fulfilled is not stated—whether it, by means of the water, was held to the points of the wires in the brush, and was brought into contact with the surface of the glass, as such points revolved, or whether it formed a bed, kept fed, on the surface of the glass, such surface being maintained as horizontally as possible, and the particles of emery or sand were rubbed by the revolving points of the wire brush against the glass. Robinson states that the emery or sand is capable of roughening or deadening the surface of the glass. But his process, so far as it can be understood, is to rub the emery or sand against the surface of the glass, by means of the rotating wire brush. There is no suggestion that the work is done by using the grains of emery or sand as projectiles, through the velocity and momentum imparted to them. If the rotation of the wire brush would make projectiles of the grains of emery or sand, by a velocity of rotation sufficient to overcome their adhesion, through the water, to the wires of the brush, it would be a pure matter of accident whether those projectiles would strike the glass. It seems probable that the sand and water were fed to the surface of the glass, and that the wire brush was used to scratch the grains of sand against the glass. The description is very vague. Whatever the process was, it would suggest to no one the plaintiff's invention, or the process used by the defendant.

Grave reference is made, on the question of novelty, to patents granted for projecting a stream of sand combined with a jet of steam, from a locomotive engine, for the purpose of driving cows from the track of a railroad, and the learned expert who makes an affidavit on the subject says, with great truth, that the only difference between such use, in combination, of a jet of steam and a stream of sand, and the use by the plaintiff of the combination of a jet of steam with a stream of sand, is that, in the former case, the sand, after having had velocity imparted to it, came in contact with cows; while, in the latter case, it comes in contact with glass, stones, etc. This is the only difference, but in this difference lies the distinction between the two. No one, from observing the temporary operation of the process on the animal,

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would infer that he could, by the same means, produce the results which the plaintiff describes. Nor is there any resemblance in kind between those results and the result produced on the animal.

It is urged that the plaintiff, in his first claim, claims the cutting, etc., of stone, etc., by sand used as a projectile, only when the requisite velocity is "artificially" given to the sand; that this confines him to a mode of propelling the sand such as he describes, or equivalent means; that, notwithstanding what is said in the specification about "the force of gravity," the first claim does not allude to or cover the natural velocity acquired by the falling of a body; that such claim covers only velocity artificially given; that, in the defendant's process, the requisite velocity is not artificially given to the sand; and that, therefore, the defendant does not infringe the first claim of the plaintiff's patent. The plaintiff, in his specification, not only states that he has produced some cutting and grinding effects by sand impelled by the force of gravity, and that a stream of sand fed into the top of a high vertical tube at first falls slowly, but, after the air in the tube is set in motion, the sand gradually falls more rapidly, and can finally acquire velocity sufficient to grind or depolish glass, but he speaks of causing an air-current, created by a fan, to descend in a vertical tube into the top of which sand is fed, against flat glass held about one inch below the bottom of the tube. The process used by the defendant is fully described in the plaintiff's specification. The word "artificially," in the first claim of the plaintiff's patent, and throughout the specification, covers the falling of sand through a vertical tube high enough to enable the sand to acquire sufficient velocity to do its work. The work is done because the sand falls through a tube. It would not be done if the sand fell unconfined and unguided by a tube, not only because the tube concentrates the sand and makes a stream of it, which can be directed effectively against a given space on an object, but because, as the plaintiff's specification states, the falling of the sand in the tube, which is at first slow, sets the air in the tube in motion, and then the sand gradually falls more rapidly until it finally acquires sufficient velocity to do the work. There is thus produced an artificial current of air. The air would have no current, if not set in motion by the falling of the sand through the high vertical tube. This current of air gives an artificial velocity to the falling

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sand, greater than the natural velocity which, as a falling body, it would have outside of the tube. Such artificial velocity grows to be the requisite velocity. The requisite velocity is thus artificially given to the sand. The artifice is the confinement of the falling sand in a high vertical tube, into the top of which it is fed, with free access of air to the tube.

The first claim of the plaintiff's patent is for a process or art, and is valid. It is infringed by the defendant. There is no doubt as to the novelty and utility of such process. The fact that the plaintiff has extensively applied it to practical use, and has been, and but for the infringement committed by the defendant would still be, in the undisturbed possession, use, and enjoyment of the exclusive privileges secured by the patent, and in receipt of the profits of the same, as averred in the bill, is not contradicted. An injunction must therefore issue, as prayed for.

H. W. PUTNAM

vs.

SEPHRENESS HICKEY ET AL. IN EQUITY.

Letters patent granted to H. W. Putnam for "improved bottle-stopper fastener," March 15, 1859, reissued January 24, 1864, are valid.

A bottle-stopper fastener, formed of wire, and bent into a U-shape at the part where it passes over the cork, so as to embrace the plunger of the bottling machine, and thus permit the bale to be swung up over the cork before the plunger is withdrawn, is not anticipated by those fasteners which have no provision for receiving the plunger of a bottling machine.

(Before MILLER, J., Eastern District of Wisconsin, February, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought on letters patent for an "improved bottle-stopper fastener," granted to complainant, March 15, 1859, and reissued January 24, 1864.

The invention is fully described in the opinion, and is illustrated by the accompanying engraving, which also shows one of the forms of the stopper-fasteners described in the Chalus patent, and by which it was insisted by the defendants the invention of Putnam was anticipated.



Chalus.



Putnam.

George B. Goodwin, F. C. Nye, and T. A. Jenckes, for complainant.

S. W. Granger, for defendants.

MILLER, J.

Complainant, in his bill, states that he was the original and first inventor of a new and useful improved bottle-stopper fastener, for which letters patent were issued to him bearing date March 15, 1859; and that he surrendered said patent, and reissued letters patent were received by him, dated January 19, 1864, designated as reissue No. 1606, which granted to complainant for the term of fourteen years, from March 15, 1859, the full and exclusive right and liberty of making, constructing, using, and selling to others to be used, the said invention, described in the amended specification.

In the schedule referred to in the letters patent, it is stated that "fastenings for bottles" have heretofore been in use in which a strap of metal has extended over the cork from a hinge or joint formed on each side of the neck of the bottle by a second metallic strap. The nature of the invention consists in forming the fastener of wire, bent in such a manner that if the pressure upon the

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cork is sufficient to bend the wire-fastener, it will retain the cork more firmly, and the cork will require to be pushed in before the fastener can be pushed aside, thus causing the pressure to render the fastener more secure, instead of more liable to failure.

Joints are formed for securing the fastener and forming a hinge, upon which it may be turned aside, by bending the ends of such wires at right angles, or nearly so, to the sides of the fastener. Wire is used to attach this fastener to the bottle, in which the eyes are formed for receiving the ends of the fastener, and on which the fastener swings, thus producing by one piece of wire a much more simple, effective, and cheap attachment than any before made.

The schedule further represents that the fastener is of two pieces of wire. Bent wire of about one-tenth of an inch in diameter embraces the stopper or cork of the bottle. The two sides are nearly straight, curved a little in one direction to fit the enlargement upon the neck of the bottle. The lower ends are turned outward, in this manner forming the pin for the hinge. The middle portion of this wire is bent so as to stand nearly at right angles to the sides, the horizontal parts being nearly parallel, and a space between being left sufficient for the piston that presses the cork into the neck of the bottle for the purpose of holding the carbonic-acid gas in solution, with which the liquid is charged.

In the wire that surrounds the neck of the bottle are loops into which these ends are inserted, and which, together, form a hinge upon each side of the neck of the bottle, allowing the wire to be turned back, thus leaving the stopper free.

Complainant claims to secure by letters patent:

"1. Forming the fastener at the part that comes over the cork of a piece of wire of a U-form, with the ends returned and connected to the bottle, in order that the pressure on the cork or stopper may cause the fastener to hold more securely, as specified.

"2. A wire-fastener for a cork or stopper, in which the ends of the wire are bent nearly at right angles to form the joint or hinge on which the fastener is turned, substantially as specified.

"3. Forming the eyes for the reception of the fastener by means of a wire bent as set forth.

"4. A wire-fastener for the stoppers of bottles, fitted so that it can be pressed aside from over the stopper, as set forth, in combi-

nation with a band or fastening attaching the same to the neck of bottle, as specified."

The defendants are charged in the bill with unlawfully and wrongfully making and selling, at the city of Milwaukee, large numbers of bottle-stopper fasteners, made substantially as described in the reissued letters patent, with a prayer for an injunction and for an accounting.

Defendants, in their answer, do not deny making, using, and selling an article similar to that patented to complainant, but they deny the making, using, or selling any invention for which the complainant has or has had the exclusive right or privilege to make, use, or sell, or in violation of any rights or privileges under the said reissued letters patent; or any cork-fastener containing or embracing any invention of the complainant, or any material part thereof.

It is alleged in the answer, upon information and belief, that the alleged invention was not new and original with the complainant, but that it was communicated to him, and explained to him by one John Schrink, residing at Toledo, in the State of Ohio.

It is further alleged by the defendants that, for an improvement similar to that claimed by complainant, letters patent were granted to one John Allender, of New London, in the State of Connecticut, July 24, 1855, and that he and his heirs have continued ever since making and using the articles so patented to him.

It is also alleged in the answer, that long before the patent and reissue patented to complainant, the same and each and every material part thereof was described, set forth, and explained in volume 2 of the Patent Office Reports of the United States, in the year 1855, on pages 175 and 337; number of the patent, 13,338. Also in the English Patent Reports for the year 1848; number of the patent, 12,330, and issued to Thomas Masters in the same year. Also in the English Patent Reports for the year 1856; number of the patent, 2,088 or 20,088, issued to one Chalus. Also in the English Patent Reports for the year 1857, in the patent issued, as is described and set forth, to James Hincks and James Tyson Nibbs, January 23, 1857. Also in Bufnoir's Provisional Protection, English patent; date of patent, August 1, 1855. Also

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in English Patent Reports for the year 1854; number of patent, as described therein, 1,823; and in the claim or patent issued to Henry Bauckham. Also in same reports for the year 1853, in claim or patent of Henry G. James, or Herbert James. Also in first series of French Patent Reports, in patent issued to C. Goin, March 25, 1835. Also in volume 3, page 232, 1815. Also in volume 25, page 125, second series, French Brevets; and the plates of the same in same volume, page 26, or No. 26; date of patent, October 14, 1851. Also in volume 20, second series of same works, page 208; see plates. And on these facts, so pleaded by the defendants, they allege that the letters patent to complainant are null and void.

It does not appear in evidence that John Schrink communicated to complainant sufficient facts to enable him to form a model for his invention. On the contrary, this man, John Schrink, is one of the witnesses to complainant's application; and complainant denies having obtained from Schrink the alleged intelligence.

There is also proof sufficient to establish the facts that the improvement of complainant has become of general use, and that the use extends back to a short time after the date of the amended letters patent. Referring to the date of the original patent, its validity may be legally presumed.

The evidence of the witnesses, in connection with the exhibits of the patented articles annexed to bottles, I think, substantially supports the schedule description of the letters patent as claimed by complainant.

It would be tedious to follow in detail the evidence in the description and explanation of the complainant's improvement.

In regard to several of the patents mentioned in the answer, there is no satisfactory evidence of their construction or description. I will therefore lay aside all consideration of the patents referred to in the reports of the English patent to Howe and the provisional protection to Hincks & Nibbs, Bufnoir, Bauckham & Glover, and to James. The French patent to Ador had no provision for being swung on or off the cork, or to be used with a bottling-press. The English patents to Masters, and the French patent to Menage and Bougy, are not wire-fasteners. Their fasteners are made of iron or metal, both in the neck-bend and in the part or bale that swings over the corks, which is a circular plate,

resting on the top of the cork. From the model, I think that the fasteners could not be used with a bottling-press, there being no provision for receiving the plunger of the press, so that the fastener could be swung over the cork before the plunger was removed.

In addition, it is made of iron, at a great expense. In the patent to Menage and Bougy there is a neck-band of metal, to which hooks are attached to receive the bale, instead of eyes, and a plate rests on the top of the cork, cut out on one side from the central hole to the periphery—the central hole being for the purpose and of the size only to receive a siphon-tap.

The patent of Chalus comes nearer to that of complainant than any other introduced in this record; but I think there is a marked difference between them. In Chalus' patent the eyes formed upon the neck-wire have their planes radial with the bottle, instead of parallel with the sides of the bottle; and the hinges in the bale are formed by the loops of the wire bent round in a plane parallel to the sides of the bottle, instead of having merely short gudgeons standing radially to the bottle. And the bale of the Chalus fastener is not so formed as to take under the swell upon the neck of the bottle as complainant's, which relieves the hinges of a great portion of the strain. There does not appear, in the Chalus fastener, to be any provision for its use in a bottling-machine. In Chalus' fastener, neither the bale-wire nor the neck-wire are constructed in the same way as complainant's. There are other differences between these two fasteners which I need not trace. In the use of complainant's fastener there is a great saving of time, labor, and expense over any of the other patents, and I think it was a patentable improvement.

From as thorough examination of the points and exhibits as my other duties have permitted, and from the arguments of the counsel, I have come to the conclusion that complainant's patent is for an improvement in the fastener of bottles, as described in his patent and schedule thereto annexed, and that the patent is valid.

Decree accordingly.

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WARNER MILLER

vs.

THE ANDROSCOGGIN PULP COMPANY. IN EQUITY.

Letters patent for an "improvement in reducing wood to paper-pulp," re-issued to A. Pagenstecher, assignee of Henry Voelter, June 6, 1871, which improvement consists in defibring the wood by acting upon a block by a grinding surface, which moves substantially across the fibers, and in the same plane with them, are valid.

Such invention is not anticipated by the French patent of Christian Voelter for grinding wood upon the ends of the fibers, or by the English patent of A. A. Brooman, for grinding wood by a stone moving diagonally across the fibers.

The novelty of the invention not having been disproved by the facts set up by the defense, and it appearing that there was an actual infringement, and that complainant had been in exclusive possession under the patent for a long time, with the acquiescence of the public: *Held*, that a provisional injunction should be granted.

(Before SHEPLEY, J., District of Maine, March, 1872.)

MOTION for provisional injunction.

Suit brought upon letters patent for an "improvement in reducing wood to paper-pulp," granted to Henry Voelter, August 10, 1858, and antedated August 29, 1856; assigned to A. Pagenstecher, and reissued to him April 6, 1869; extended for seven years from August 29, 1870; again assigned to Pagenstecher; again reissued to him June 6, 1871, and assigned to complainant.

After the delivery of the opinion, the defendants moved the court to suspend the same, provided the defendants should, within a time to be fixed by the court, give bond to pay such damages as might be recovered by the complainant upon the final decree. This motion coming on to be argued in April, 1872, was denied by the court, and a peremptory injunction issued.

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A. A. Strout and Causten Browne, for complainant.

W. H. Clifford and Chauncey Smith, for defendants.

SHEPLEY, J.

The defendants in this case are charged with an infringement of letters patent for a new and useful improvement in reducing wood to paper-pulp, for which letters patent were issued to Henry Voelter, assignor to Alberto Pagenstecher.

The letters patent were originally issued to Henry Voelter, dated August 10, 1858. and antedated August 29, 1856; reissued April 6, 1869, to A. Pagenstecher, assignee; extended for seven years from August 29, 1870; reissued June 6, 1871, to Pagenstecher's assignee; reissue assigned to complainant June 8, 1871.

The Voelter patent is for an improvement in the art of reducing wood into pulp for use in paper, and also for certain improvements in machinery therefor. In the specification of the reissued patent, Henry Voelter states: "The art of reducing wood to pulp, by subjecting the same to the action of a revolving stone, is not a new one, machinery for grinding wood, while a current of water was applied to the stone, having been patented in France, by Christian Voelter, as early as 1847 (see vol. 10, second series, Brevets d'Invention); and in England, by A. A. Brooman, of London, in 1853 (see Repertory of Patented Inventions for May, 1854, p. 410).

"In all the processes known or used prior to my present invention, the wood has been acted upon by the stone in one of two ways, viz: either by causing the surface of the stone to act upon the ends of the fibers, the surface of the stone moving substantially in a plane perpendicular to the fibers of the wood; or, secondly, by acting upon the fibers in such a direction that they were severed diagonally, the surface of the stone moving diagonally across the fibers.

"The first plan, in fact, made powder of the wood. The pulp had no practical length, and, on trial, proved worthless, or nearly so. The second plan was carried out by the use of a stone revolving like an ordinary grindstone, the wood being applied upon the cylindrical surface thereof, with the fibers perpendicular, or

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nearly so, to planes passing through the axis of the stone and the point or locality where the grinding was performed; and this plan also failed because the fibers were cut off in lines diagonal to their own length, and were consequently too short to make good pulp. There were other difficulties attending the process, not necessary here to mention.

"Such was the state of the art prior to my invention; and my improvement in the art consists in grinding, or rather tearing out the fibers from the bundle of fibers which make up a piece of wood, by acting upon them by a grinding surface, which moves substantially across the fibers, and in the same plane with them."

The first claim in the reissued patent is for the improvement in the art herein described, which consists in tearing or grinding out fibers from blocks of wood, in the manner substantially as described, without cutting or severing the fibers either perpendicularly or diagonally to their length, as heretofore practiced in this art.

The third claim is for the combination of a grinding surface and cells or boxes for blocks of wood, so constructed and arranged with reference to the surface, that the fibers of blocks of wood placed therein lie in the plane, substantially, of the grinding surface, and across the line of motion of points in the grinding surface.

The fourth claim is for, in combination with a revolving grinding surface, blocks of wood so held thereon that their fibers are in the relation to the surface and to the motion of points thereon, substantially as described, so that, by the operation of the grinding surface upon the blocks, fibers will be separated from the same without being cut across.

It is clear that the defendants use the improvements and combinations described in the first, third, and fourth claims of the Henry Voelter patent.

The defense is placed substantially upon the ground that the Christian Voelter patent of 1847, referred to by Henry Voelter in his application in 1858, described the same mode of defibring the wood that the reissue describes and claims. Defendants contend further that the reissued patent, as interpreted by them, does not state otherwise.

After a careful examination of the specification in the last re-

sued patent, it appears to be evident that Henry Voelter, after referring to the inventions of Christian Voelter and A. A. Brooman as describing the state of the art prior to his invention, refers to these two patents, when he says, "In all the processes known or used prior to my present invention, the wood has been acted upon by the stone in two ways, viz: either by causing the surface of the stone to act upon the ends of the fibers, the surface of the stone moving substantially in a plane perpendicular to the fibers of the wood; or, secondly, by acting upon the fibers in such a direction that they were severed diagonally, the surface of the stone moving diagonally across the fibers. The first plan" (and herein I think he clearly refers to the invention of Christian Voelter) "in fact made powder of the wood. The pulp had no practical length, and on trial proved worthless, or nearly so." "The second plan" which Henry Voelter describes is an exact description of the plan of Brooman; and he goes on to state that this plan also failed because the fibers were cut off in lines diagonal to their own length, and were consequently too short to make good pulp.

Having thus described the state of the art prior to his invention, he describes his own improvement in the art to consist in grinding, or rather tearing out the fibers from the bundle of fibers which make up a piece of wood, by acting upon them by a grinding surface, which moves substantially across the fibers, and in the same plane with them.

This process of defibring the wood appears to the court to be clearly suggested, indicated, and claimed in the first application of Henry Voelter for a patent, as distinguished from the prior inventions of Christian Voelter and Brooman in those portions of the specification wherein he states that these prior patents are for the very same, or essentially the same invention, and that the principle and elements of his invention have nothing in common with any known or used machinery or apparatus for preparing and assorting wood-pulp, except the employment of a circular and rotating mill or grindstone as a reducing agent.

After further reference to the prior state of the art as developed in the patents of Christian Voelter and Brooman, he proceeds to state that a most important and decidedly novel feature is introduced in his invention, by constructing and arranging the reducing

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apparatus in such a manner as to admit, first, of a position of the block with its fibers parallel to the axis of the revolving stone.

This position of the fibers of the wood in the plane, substantially of the grinding surface and across the line of motion of points in the grinding surface, is as clearly stated in his first application to be a most important and decidedly novel feature of his invention as it is in the third and fourth claims of the last re-issued patent.

If the invention of Christian Voelter embraced the principles and elements of this invention so far as the position of the fibers of the wood in their relation to the plane of, and the line of motion of points in, the grinding surface is concerned, being the principle and elements which distinguish the process of defibring the wood from all prior processes which severed the fibers either perpendicularly or diagonally to their length, then there was a willful *suggestio falsi* in the original and all subsequent specifications of the Henry Voelter patent.

It can not for a moment be contended that Henry Voelter did not understand the invention of Christian Voelter so far as it related to this position of the fibers of the wood in their relation to the plane of, and the lines of motion of points in the grinding surface. If any such position of the fibers was contemplated in the invention of Christian Voelter, whereby they would be disintegrated and separated, instead of being ground off perpendicularly or cut off diagonally, then Henry Voelter, who was a brother and partner of Christian Voelter, and familiar with his process, must not only have known it, but knowing it, have willfully misstated it; and, in the same paper in which he misstated it, have referred to the evidence which would have proved his statement to be false, and his claim that his process of defibring the wood, as distinguished from grinding or cutting off the fibers, was an important and novel feature of his invention, to be groundless.

The very vague and meager description in the Christian Voelter patent, of the mode in which the wood is applied, would not alone afford any conclusive evidence as to the relative position of the fibers of the wood to the grinding surface. The only description in the patent relates to the position of the block itself in relation to the grinding surface, and contains in it no word necessarily descriptive of the relation of the fibers of the wood to the

grinding surface. He says only : "Several bits or pieces of knotless timber, of a length equal to the thickness of the grindstone, are pressed against its external circumference." Defendants contend that the word "length" refers to the dimensions of the block in the line of the fibers of the wood, as distinguished from its true length. The word "length" is undoubtedly sometimes used in this sense. Upon this point it is sufficient to say that these words of description are so ambiguous that they might have been applicable, either to a block of wood, with its fibers substantially parallel to the plane of the grinding surface and perpendicular to the lines of motion of points in the grinding surface, or applicable to a block of wood with the fibers substantially perpendicular to the grinding surface. The word "length," it will be observed in this description, is used only for the purpose of showing that the dimensions of the block in one direction are to be equal to the thickness of the grindstone, for the purpose of utilizing the whole grinding surface. The description itself, therefore, being so ambiguous as not to enable us to determine by that alone the relation of the grinding surface to the fibers, we must look to the remainder of the description to see if we can ascertain from the description of the results of the action, what action was contemplated. Is there anything in the subsequent language of the patent, describing what follows from the action of the grinding surface upon the fibers of the wood, which indicates whether the fibers were disintegrated, as they would be if the block were placed with the fibers in one position, or ground or cut off as they would be if the fibers were placed in the other position, in relation to the grinding surface? In the one case there would be long fibers or bundles of fibers of unequal thickness; in the other, short fibers more or less nearly partaking of the character of dust or powder. He says in the subsequent portion of his specification, referring to the bits of wood before referred to : "These pieces are soon fretted away by the ruggedness of the grindstone, and reduced to a kind of pulp, which, falling into a water-bath situated at the inferior part, is transformed into a pulp or paste of a greater or lesser thinness, according to the intention. That pulp is mixed with a variable proportion of rags, to be thus used for the fabrication of paper." It is manifest from this that the relation of the grinding surface to the fibers of the wood was one

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which was intended to fret away the wood into a powder or dust, which, falling into a water-bath, would, without any previous screening, be transformed into a pulp or paste suitable to be mixed with rags, to be thus used for the fabrication of paper.

The language used, the process described, the results attained, are utterly irreconcilable with the idea of any such defibring of the wood as would take place if the fibers were disintegrated and separated in such a manner as to require subsequent screening and classification, and are entirely reconcilable with the construction that the fibers were to be ground or fretted away to a powder, which, falling into a water-bath, would be transformed into a paste or pulp ready for admixture, like china-clay, with rags for the use and manufacture of paper.

Aided by this description of the results of the action of the grinding surface upon the wood, we find no difficulty in the construction of the Christian Voelter patent, or in determining that the first sentence quoted from the patent contemplates such a relative position of the fiber to the grinding surface as would afford the result described in the sentence last quoted; that is, substantially, that the ends of the fiber were presented to the action of the grinding surface.

This is the construction which Henry Voelter puts upon the Christian Voelter patent. This is the construction which the Patent Office has four times put upon it.

Without, upon this motion for a preliminary injunction, stating more elaborately the other reasons which have influenced the mind of the court in coming to this conclusion, I have only to remark, in conclusion, that I entertain no doubt that this construction, so repeatedly given and so long acquiesced in, is clearly correct.

The complainant has for a long time been in exclusive possession under the Henry Voelter patent, with the acquiescence of the public therein, and there is no evidence of any interruption of the exclusive possession under this patent, tending in any way to weaken the presumption in favor of his title arising from this enjoyment and acquiescence.

The novelty of the plaintiff's invention is not questioned except by the claim that it was anticipated by the patents to Brooman and Christian Voelter. These patents were referred to in the

original application of Henry Voelter ; the construction of these patents has four times been passed upon at the Patent Office, as not anticipating the claims in question in the Henry Voelter patent. The court entirely concurs in the construction thus given.

It is not perceived that any additional light upon the question of the interference with or anticipation of this patent by those set up in the answer could be afforded by any evidence likely to be taken before the final hearing in the cause.

So far, therefore, as the question of the novelty of the invention is concerned, the question is as fully presented to the court as there is any reason to suppose it can be at the final hearing. Entertaining no doubt, upon the evidence now presented, of the novelty of the invention, the defendants' process being substantially identical with that claimed in the first, third, and fourth claims of the complainant's patent, it is clearly the duty of the court, under the circumstances, to give the plaintiff the benefit of that presumption of title which the patent affords, and which, in this case, it especially affords him, as against any adverse right set up under patents referred to by him in his original application, and so frequently decided by the Patent Office not to interfere with the originality of the inventions claimed by him.

NATHANIEL JENKINS

vs.

GEORGE W. WALKER ET AL. IN EQUITY.

The patenting a material for one purpose does not necessarily invalidate patenting it for another different and not analogous purpose.

The principle involved in the application of a hard-rubber compound for the purpose of diminishing the effect of attrition, is essentially different from that involved in the use of a crude, burnt, refractory rubber compound, to resist the solvent action of steam or hot and corrosive fluids.

When the specification of a new composition of matter gives only the names of the substances which are to be mixed together, without

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stating any relative proportion, it would be the duty of the court to declare the patent to be void.

The same rule would apply when it is apparent that proportions are stated ambiguously or vaguely, since no one could use the invention without first ascertaining by experiment the exact proportions of the different ingredients required to produce the intended result.

The specification must be in such full, clear, and exact terms as to enable any one skilled in the art to which it appertains to compound and use it without making any experiments of his own.

A composition, consisting of rubber, gum-shellac, Paris white, French chalk, litharge, lamp-black, and sulphur, is infringed by one consisting of rubber, plumbago, copper and zinc, lead and sulphur.

(Before SHEPLEY, J., District of Massachusetts, March, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought on letters patent for an "improvement in the manufacture of elastic packing, granted to complainant, May 8, 1866, and reissued August 3, 1869.

The defendants claim to have manufactured the goods alleged to be an infringement under letters patent for an "improved rubber composition," granted to C. L. Frink, May 8, 1866.

Thomas W. Clarke, for complainant.

E. L. Sherman and *J. J. Storrow*, for defendants.

SHEPLEY, J.

This is a bill in equity, alleging an infringement of the letters patent granted to the complainant May 8, 1866, and reissued August 3, 1869, for a new and useful elastic packing for joints and valves exposed to destructive fluids. The substance of the complainant's invention consisted in the employment of an elastic packing for joints and valves, of a crude, burnt, refractory rubber compound, sufficiently elastic and indestructible to resist the solvent action of steam or hot and corrosive liquids, and made from a composition containing forty per cent. or more of refractory mineral matter, cemented together by vulcanized rubber. The term "refractory," as used in the arts, indicates the quality of resisting the action of heat and solvents. In this sense, Paris white, French chalk, and plumbago are refractory.

Prior to 1866, rubber-packing used for steam-packing for joints and valves, did not in any degree possess or have the character of hard rubber. The kinds of rubber goods in use before that time for packing steam-joints and valves were, as represented by exhibits in the case: first, "pure packing," a soft-rubber fabric, made in sheets; second, "plain packing," a soft-rubber fabric, made in sheets, and having a cloth insertion; and, third, "mixed or fibrous packing," a rough looking soft-rubber fabric, made of old scraps.

The answer of the respondents denies that the reissued letters patent are for the same invention as the original letters patent; and they say that the reissue was obtained by fraud, and is therefore invalid. There is no evidence in the case to support these allegations in the answer.

The answer also denies that Jenkins was the original and first inventor of the thing patented, and denies any infringement of the reissued letters patent. The defendants further allege that the elastic packing manufactured, sold, and used by them was manufactured under and according to letters patent of the United States, granted to C. L. Frink, May 8, 1866.

Upon the issue of novelty, defendants rely upon the letters patent granted in England to W. E. Newton, and dated April 24, 1854, and upon letters patent of the United States to A. K. Eaton, and dated June 19, 1860. Newton's patent was for mingling plumbago with hard-rubber compound, to be used in the manufacture of bearings for machinery, in order to prevent attrition or friction. It appears from the evidence in this case that the composition of matter described in the Newton specification, if made in the mode there described, would not have the physical properties of the compound described in the complainant's specification, because the presence of so large a proportion of sulphur, as indicated in the formula of the Newton patent, would render the valves susceptible to the action of the heat and solvents. The patenting a material for one purpose does not necessarily invalidate patenting it for another different and not analogous purpose. *Newton v. Vaucher*, 6 Exchequer, 859. The two patents are essentially different. The principle of the Newton patent is clearly the application of the hard-rubber compound for the purpose of diminishing the effect of attrition. The principle of the plaint-

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iff's patent is the use of the crude, burnt, refractory rubber compound to resist the solvent action of steam or hot and corrosive fluids. The two inventions differ in principle, and there is a substantial difference in the product in which the invention is embodied, and the purpose to which that product is to be applied. The same principles and considerations apply to the case of the Eaton patent. It is perfectly plain, from a comparison of the plaintiff's specification with the specifications in the Newton and Eaton patents, taken in connection with the fact that there is no evidence that, under either of those patents, a product was ever made having the physical properties of the plaintiff's compound, that these patents do not anticipate the plaintiff's invention.

Letters patent, on May 8, 1866, being the day of the date of the complainant's patent, issued to C. L. Frink for a new and improved rubber composition. He describes his invention as consisting in a compound made of India-rubber, sulphur, black-lead, or other suitable material, generally mixed with rubber to give it consistency and to increase its weight, and metal filings (brass filings being used in preference), in such a manner that a compound is obtained which is not liable to stick when exposed to a great heat or steam, and which is particularly fit for packing safety-valves, globe-valves, or other parts which are exposed to the action of steam, and which, when packed with ordinary rubber, require constant repair. The only description which he gives of the manner of making his compound is as follows: "I mix the filings with the mass, simultaneously with the sulphur and black-lead or clay, or other ingredients which are usually mixed with the crude rubber, and when the composition is made, I vulcanize or cure the same in the ordinary manner. The quantity or proportion of filings to be mixed with the rubber is variable, according to the nature of the work for which the rubber is to be used. For packing of small valves, about one part, by weight, of filings is sufficient." It is obvious, from inspection of this specification, that as the relative proportions of the rubber, sulphur, and plumbago are not given or indicated in any way, the description is not sufficiently clear and exact to enable others skilled in the art to make a rubber compound of the ingredients therein specified adapted for use as an elastic packing for joints and valves, and sufficiently indestructible to resist the solvent ac-

tion of steam or heated and corrosive fluids. And this want of such full, clear, and exact description, which will enable others skilled in the art to make and use the same, is abundantly proved by the testimony of persons skilled in the art.

Henry W. Burr, who has been engaged in the rubber business twenty-eight years, and is the superintendent of a rubber factory, and is a thoroughly practical manufacturer and manipulator of rubber compounds, testifies that from the directions in the Frink patent he is not well skilled enough in the art to produce a valve-disk from that which will stand the heat.

Dr. S. Dana Hayes, an eminent chemical expert, the state assayer of Massachusetts, and the consulting chemist of several manufactories of rubber goods, testifies that he can not tell, from reading Frink's specification, what the composition of the proposed composition was, nor what its physical characteristics would be.

No evidence is offered in rebuttal of these statements. It is evident that the success of the process and the value of the product for the desired purpose are entirely dependent upon proportions and temperatures, and proportions and temperatures are not even indicated in the Frink specification.

When the specification of a new composition of matter gives only the names of the substances which are to be mixed together, without stating any relative proportion, undoubtedly it would be the duty of the court to declare the patent void; and the same rule would prevail when it was apparent that the proportions were stated ambiguously or vaguely, for in such cases it would be evident on the face of the specification that no one could use the invention without first ascertaining by experiment the exact proportions of the different ingredients required to produce the result intended to be obtained. The specification must be in such full, clear, and exact terms as to enable any one skilled in the art to which it appertains to compound and use the invention—that is to say, to compound and use it without making any experiments of his own. *Wood v. Underhill et al.*, 5 How. 1.

The record does not afford any satisfactory proof that Frink made a composition of matter like that which the plaintiff has patented before the date of the plaintiff's invention.

The complainant's composition of matter, according to his

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specification, consisted of rubber, from 20 to 25 per cent. ; gum-shellac, from 10 to 20 per cent. ; Paris white, from 20 to 30 per cent. ; French chalk, from 15 to 25 per cent. ; litharge, from 11 to 18 per cent. ; lamp-black, from 2 to 3 per cent. ; sulphur, from 1 to 3 per cent.

The analysis made by Dr. Hayes of the valve-seats used and sold by the defendants, and claimed by them to have been made under the Frink patent, contained: Rubber, 30.6 per cent. ; plumbago, 40 per cent. ; copper and zinc, 14.6 per cent. ; lead, 8.2 per cent. ; sulphur, 6.6 per cent.

Now, classifying in both patents plumbago, French chalk, and Paris white as the refractory mineral matter, and the rubber and shellac and sulphur as the cementing material, and the lead or litharge and brass filings as sulphur absorbents, the testimony showing that they combine with each other in vulcanizing, making another comparatively refractory ingredient, sulphureted metal, it appears that the proportions of the ingredients, which are substantially alike in the two formulas, are very nearly identical, except that the defendants use, in addition, about 10½ per cent. more of metal, and about 3½ per cent. more of sulphur, which, combining, as before stated, constitute an addition to or adulteration of the complainant's compound of 14 per cent. in excess of comparatively refractory mineral matter, consisting of the metals which have been partially mineralized by the sulphur. The defendants use substantially the same elements, compounded and treated on principles substantially the same as those of the patented article, and produce substantially the same product. If the addition of this percentage of sulphur, and also of brass filings, to the complainant's compound, was any improvement, it would not authorize the use of the patented product improved upon, without license from the patentee, any more than the patent to Edwin L. Simpson for his improvement in dental rubber, for the purpose of avoiding the odor and taste of the sulphur used in the vulcanizing of dental rubber, would have authorized him to use the invention of Nelson Goodyear.

Decree for account and injunction, as prayed for in complainant's bill. Decree in accordance with this opinion to be drawn up and submitted to the court.

THE AMERICAN SADDLE COMPANY

vs.

CHARLES B. HOGG. IN EQUITY.

If it should appear that a bearing surface of vulcanized rubber had been applied to a horse-collar to prevent the absorption of the perspiration and the formation of wrinkles, and to assist in the curing of skin-galls, it would be difficult to decide that there would be anything new and material, either in principle, in combination, or in the mode of operation, in order to adapt a bearing surface of the same material to its new and analogous use as a part of a harness saddle-pad.

Where it was sought, for the purpose of superseding complainants' invention, to introduce in evidence a patent not set up in the answer: *Held*, that it would not be admitted.

The court can make no use of a prior patent, introduced without notice, to show the state of the art, where the only effect of such patent is to anticipate the patented invention.

The case of *Vance v. Campbell et al.* decides only that no notice is necessary in order to justify the admission of evidence for the purpose of showing the state of the art in respect of improvements existing, at the date of the plaintiff's invention, in the class of articles to which it belongs.

(Before SHEPLEY, J., District of Massachusetts, March, 1872.)

FINAL hearing upon pleadings and proofs.

Suit brought upon letters patent for an "improved harness saddle-pad," granted to R. C. Sturges, January 19, 1869, and assigned to complainants.

The nature of the invention is fully stated in the opinion.

P. H. Hutchinson, for complainants.

J. H. Bradley and *S. E. Ireson*, for defendant.

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SHEPLEY, J.

The complainants are the patentees under letters patent of the United States, issued to them January 19, 1869, as assignees of R. C. Sturges, for a new and useful improved harness saddle-pad.

The inventor claimed as the distinguishing feature of his improved pad an impervious bearing surface of vulcanized rubber or gutta-percha. The principle advantage claimed for this bearing surface was not only that it protected the stuffing of the pad from animal exudations, and remained clean, smooth, and soft, but also that the effect of the vulcanized rubber surface was to prevent galls upon the back of an animal working under one of these pads, and that the sulphur used in the process of vulcanization had certain curative properties when the pads were used upon horses or mules whose backs had become galled when working under other pads. His claim was for an improved pad for harness saddles, the distinguishing feature of which is an impervious bearing surface of vulcanized rubber combined with the other portions of the pad, substantially as set forth in his specification.

The answer of the respondent puts in issue the novelty of the invention, and gives the names and residences of five different parties alleged by the respondent to have used and sold the substantial and material parts claimed as new before the invention thereof by the complainants' assignor. The evidence in the record only proves the manufacture and use by the persons specified, or some of them, of a saddle-pad constructed substantially in the same manner as those described in the complainants' specification, with a bearing surface of material other than vulcanized rubber or rubber cloth. This evidence does not affect the novelty of the invention claimed by Sturges, the distinguishing feature claimed for which was the combination, with such pads as were previously made, of a new impervious bearing surface of vulcanized rubber.

Letters patent of the United States, granted to William Leonard, September 3, 1867, have been introduced in evidence, and are admissible as showing the state of the art prior to complainants' invention. Their competency is objected to by the complainants, respondent not having given any notice in his answer that he should rely upon these letters patent or the invention de-

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scribed therein. The patent was for improvement in horse-collars. The patentee described his invention as relating to the construction of the collar with reference to the employment of vulcanized rubber, or its compounds for the bearing surfaces thereof. "The object," he states, "of employing the rubber is to prevent absorption of perspiration from the body of the animal by and into the stuffing of the collar, and to obviate the formation of permanent wrinkles in that surface of the collar which comes in contact with the skin of the animal; and I consider the rubber beneficial for the cure of skin-galls by reason of the healing influence of the sulphur contained in the vulcanized material." In Leonard's patent, as in the complainants', reference is made to a mode of securing to the edge of the rubber a strip of some stronger material by which to secure the rubber to the remaining portions of the pad.

It thus appears that the Leonard patent embodies, in the form of a horse-collar, substantially, if not identically, the same points of invention which in the complainants' patent are embodied in the form of a harness saddle-pad. If this point of defense was open, therefore, to the respondent by the introduction of the Leonard patent, of which no previous notice was given in the defendant's answer, we might feel compelled to decide that the plaintiff was not entitled to a patent for applying a bearing surface of vulcanized rubber to that part of a harness which comes in contact with the back of an animal, when the same application of the same bearing surface, for the same purposes, to that part of the harness which comes in contact with the horse's neck, had been previously patented, for it would have been difficult to decide that there was anything new and material, either in principle, in combination, or in the mode of operation, in order to adapt it to its new and analogous use.

But the Leonard patent is not set up in the answer; the objection to its introduction in evidence was seasonably taken, and clearly it can not be admitted in evidence to supersede the invention of the assignor to the complainants, as that would operate as a surprise upon the complainants. *Howe v. Williams*, 3 Fisher, 411. The case of *Vance v. Campbell et al.*, 1 Black. 427, relied upon by the defendant, decides only that no notice is necessary in order to justify the admission of evidence for the purpose of showing

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the state of the art in respect to improvements existing at the date of the plaintiff's invention, in the class of articles to which it belongs. In reference to the state of the art prior to the invention of Leonard and Sturges, the use of a vulcanized-rubber bearing surface, for the purposes set forth by Leonard and by Sturges, was new and patentable. Whether the invention of Leonard anticipated and superseded that of Sturges is a question not raised by the pleadings in this case, and respecting which no competent evidence is to be found in the record. No use can be made by the court of the Leonard patent, in the view entertained by the court of the respective inventions described and claimed by Leonard and Sturges, to limit or define the claim in the Sturges patent, except one which would render the Sturges patent void, by reason of a prior invention by Leonard, of all the material and substantial parts of the invention claimed by Sturges. Such a use of the Leonard patent the court is not authorized to make in this case. If that issue had been made in the pleadings, and notice had been given to the complainants that the respondent relied upon Leonard's patent as anticipating the invention of Sturges, the court can not know that complainants would not have met that issue, if presented, by proof that, although Leonard's patent antedated the patent of Sturges, the invention of Sturges antedated Leonard's.

Treating the complainants' patent, as upon the evidence in this case the court is bound to treat it, as a good and valid patent, it is unnecessary to say anything further upon the subject of infringement than that Exhibit E, one of the saddle-pads made by the defendant, is so manifestly identical with Exhibit D, the saddle-pad manufactured under complainants' patent, that it differs from it in no respect except the addition of an elastic loop to attach it to the saddle. The defendant's patent, if valid, is only so for the combination with the pad of his elastic loop as distinguished from non-elastic loops previously used. There is no pretense that this gives him any right to use the invention of the complainants, or of any other person, to which his elastic band or loop may be applied.

JOSEPH WOODWARD

vs.

LOUIS P. MORRISON AND GEORGE G. NOAH.

The invention patented to Joseph Woodward, February 20, 1866, for an improved paste, consisted in the discovery that the use of a very minute quantity of corrosive sublimate would arrest the tendency to fermentation in the paste, without imparting to it any poisonous properties; also, that an improved result was effected by the addition of chloride of sodium, or an equivalent salt, soluble in the aqueous solution of corrosive sublimate.

A paste in which corrosive sublimate is used in proper quantity, to prevent decomposition, without making the compound poisonous and unsafe to handle, is not anticipated by a paste in which the same ingredient is purposely used in such quantity as to make the compound poisonous and destructive of animal life.

Seem, that where the patented invention is an entirely new article of manufacture, it might be sufficient to find that the defendant makes substantially the same thing, whether by the same or a different process.

Patents are infringed by the substitution of chemical equivalents as well as of mechanical equivalents.

The use of chemical equivalents may infringe a patent even if in some respects they are improvements on the original process patented.

To constitute an infringement of a chemical process, it is not necessary that the substituted ingredient be the equivalent in every respect and for every purpose of that in place of which it is used; it must only be an equivalent in the particular process, contributing to produce the same composition of matter by substantially the same chemical action.

A paste consisting of flour, salt, alum, and corrosive sublimate, is infringed by a compound consisting of flour, chloride of zinc, alum, corrosive sublimate, and oil of cloves.

Where the patentee of an improved paste used the chloride of sodium mainly for increasing the solubility of the antiseptic agent employed and assisting in its diffusion through the mass of the paste: *Held*, that the use of the chloride of zinc, which in the particular process produced practically the same result, was an infringement.

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Every specification is to be read as if by persons acquainted with the general facts of the mechanical or chemical science involved in the invention; and the specification of the parts is a specification to ordinarily skillful mechanics or chemists of the well-known mechanical or chemical equivalents.

If there are equivalents, mechanical or chemical, existing, but previously unknown to ordinarily skillful mechanics or chemists, these are not included in the specification of a patent unless specially stated therein. They are new discoveries in themselves, and may be used by all without infringing the patent.

(Before SHEPLEY, J., District of Massachusetts, March, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for an improved prepared paste for book-binders, granted the complainant February 20, 1866.

The nature of the invention is fully stated in the opinion.

James B. Robb, for complainant.

H. G. Parker and *B. C. Moulton*, for defendants.

SHEPLEY, J.

This suit is founded on letters patent of the United States granted to the complainant February 20, 1866, as the inventor of a new article of manufacture—"an improved prepared paste for book-binders"—that is, paste deprived of its tendency to putrefaction and fermentation, and made a standard article of commerce.

To a proper understanding of the case, it is necessary at the outset to give a construction to the claim in the complainant's patent. The claim is substantially for, "as a new article of manufacture," a new and improved prepared paste, consisting in the addition of ingredients to the common article of paste used by book-binders and others, and usually formed of wheat-flour and water, which ingredients shall have a chemical action upon the flour or equivalent substance, so as to preserve it in condition for use for any desired length of time, the preparation to consist of the following ingredients, in substantially the following proportions: flour, two pounds; chloride of sodium, one ounce; alum,

one-quarter ounce; bichloride of mercury, six grains; and so made and compounded as to obviate the objection which would naturally arise from the use of the rank poison, corrosive sublimate, in this composition, by the well-known fact in chemistry, that the gluten of the flour acts as an antidote to the poisonous qualities of the bichloride of mercury, thus rendering the compound innocuous and harmless. The paste in common use is usually formed of wheat-flour and water. The wheat-flour contains vegetable albumen, fibrine, gluten, and other albuminous or nitrogenous bodies; also, starch, sugar, gum, and other non-nitrogenous bodies. While the non-nitrogenous constituents have intrinsically no power or tendency to pass into decay or change in composition, the other albuminous or nitrogenous constituents, when exposed to moderately heated air in a moist condition, begin to putrefy and decompose; and when, in that state, they are brought in contact with the starch, sugar, gum, and other non-nitrogenous constituents, they cause them also to change into other compounds, and it is this process that constitutes fermentation. The object of this invention was to prevent this fermentation, by which the common flour-paste soon becomes unfit for use, and to produce that effect by means which should not impart to the paste corrosive or poisonous properties, and thus to prevent the great waste which necessarily resulted from the souring of the paste, and thus to make flour-paste a standard article of commerce.

We proceed now to consider the state of the art prior to the date of the complainant's invention. Flour-paste had been made with an admixture of alum and water, with an admixture of salt, and with the addition of corrosive sublimate, long before the date of complainant's patent. In fact, preserved paste had been made containing every ingredient that Woodward's patent contains, separately, and every ingredient in combination except salt; but from the evidence in the case it does not appear that any prepared paste had been previously made, containing in combination every ingredient that Woodward's patent contains, in substantially the same proportions, for substantially the same purposes, or effecting substantially the same results.

Corrosive sublimate or bichloride of mercury had been used by Dr. Turner, in the year 1847, and subsequently, mixed with alum

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and water, in a paste by which he secured paper labels to wooden boxes; but he used corrosive sublimate and other poisons in his paste, because the boxes contained pills manufactured to be sold in the Southern markets, and the paste was purposely made poisonous to prevent insects from destroying the labels, boxes, and contents. When, therefore, he used corrosive sublimate, it was not in such small quantities, or in such proportions to the flour that the poisonous or corroding qualities were neutralized by the chemical action of the albuminous bodies in the flour, but in such quantities and proportions as were intended to leave, and did leave, the prepared paste corroding, poisonous, and destructive to animal life. Noah, one of the respondents, who manufactured, from scraps of leather, inner-soles and layers of leather to be pasted together for heels and stiffenings, had also used corrosive sublimate in his paste to kill the rats that troubled him by eating the paste between the layers of the leather. In "Cooley's Encyclopedia of Practical Receipts," London, 1856, it was stated, on page 938, that the addition of a few drops of creosote, or oil of cloves, or a little powdered camphor, colocynth, or corrosive sublimate (especially the first two and the last), will prevent insects from attacking it (paste), and preserve it in covered vessels for years; and on page 216 of the same book, "the addition of a few grains of corrosive sublimate, or a few drops of creosote, will prevent it turning moldy, and is said to preserve it for years."

Salt or chloride of sodium had also been used in paste long before the complainant's invention.

What, then, remained to be discovered in the art of making a prepared paste as a standard article of commerce? It was known that corrosive sublimate and other poisonous substances might be used for the purpose of arresting or preventing spontaneous decomposition of the paste, and also for preventing the attacks of vermin or insects on the paste. It does not appear to have been known that paste could be preserved by means of these substances, without making a corrosive and poisonous composition, unsafe to handle, and, to a certain extent, unfit to use. The desired result which remained to be attained was to arrest the fermentation and prevent the spontaneous decomposition and consequent great waste of the paste, without making a composition corrosive or poisonous. The complainant, who was a paper-

hanger, and whose attention was therefore constantly directed to the necessity of attaining this new and improved result in the manufacture of paste, seems to have devoted much time and study to the investigation of the theory of fermentation and to experimenting with various substances known to possess the property of arresting the different kinds of fermentation to which the different ingredients or constituents of flour were subject. He did not discover that the poisonous qualities of corrosive sublimate were neutralized by albumen; but he does appear first to have discovered that by the use of a quantity of corrosive-sublimate, so small that its poisonous qualities were neutralized by the albuminous bodies in the flour, a comparatively large quantity of paste could be preserved from putrefactive decomposition. He also appears to have ascertained, and practically to have demonstrated by experiment, that in the manufacture of the article of common paste, as previously made with flour, water, and alum, a practically useful and beneficial result and improvement in the manufactured product was attained, beyond the use of the few grains of corrosive sublimate with each pound of flour, by the addition of chloride of ammonium, or chloride of sodium, or some salt or substance (equivalent to these for the desired result), which was soluble in the aqueous solution of corrosive sublimate, or in the same solution in which that was soluble. Of these, for this purpose, equivalent salts, he selected for the formula in his patent the chloride of sodium, because it was attainable at a less price than the others. The experts examined by the respective parties differ widely in some respects as to the chemical or other actions of the chloride of sodium in the composition of the complainant's product. Professor Babcock, examined by the complainant, testifies that, first, "it tends partly to preserve the paste;" second, "it is useful also in raising the boiling point of the water of which the paste is made, enabling the paste to receive a higher temperature without burning;" and third, that "it is of advantage in increasing the solubility of the bichloride of mercury, so as to carry it more thoroughly into the body of the paste." Dr. Adams, an expert, examined by the defendants, says the "salt may increase the solubility of the corrosive sublimate, but it has little or no preservative action on the constituents of the flour." Mr. Merrick, also examined by the defendants, is "not aware that it has

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any effect unless it may possibly tend to raise the boiling point of the paste." Upon this evidence the court could not be expected to decide that, in the process of manufacture as described in the complainant's patent, there was no practical advantage or utility in the admixture of the chloride of sodium with the other ingredients; and for the purpose of determining the question of the novelty and utility of the invention, it is not necessary to decide between the conflicting theories of scientific experts as to the exact extent of its utility or the precise nature of its chemical or other action. We see no reason, from the evidence in this case, to doubt that the complainant was the original and first inventor of a new and useful prepared paste, as claimed in his patent, and that the letters patent issued to him therefor are good and valid.

The question whether the defendants, by the manufacture of the paste made by them, and which, in their answer, they admit to be made according to the specifications of the patent granted to George G. Noah, one of the defendants, more than four years after the grant of the letters patent to complainant, infringe upon the rights of the complainant, is one a solution of which is much more difficult and intricate. The defendants make a paste possessing the same properties as complainant's paste in its freedom from tendency to putrefaction and fermentation, and from being corrosive and poisonous. The ingredients of the defendants' paste are the same as those of complainant, except the substitution of the chloride of zinc in the defendants' for the chloride of sodium in the complainant's, and the addition in the defendants' of two or three drops of the oil of cloves. The ingredients and the proportions thereof in their respective formulas of manufacture, as stated in the respective patents, are as follows:

<i>Complainant's.</i>	<i>Defendants'.</i>
Flour, 2 pounds.	Flour, 100 pounds.
Common salt (chloride of sodium, Na. Cl.), 1 ounce.	Chloride of zinc, 5 pounds.
Alum, $\frac{1}{2}$ ounce.	Alum, 5 pounds.
Corrosive sublimate (bichloride of mercury, Hg. Cl.), 6 grains.	Bichloride of mercury, 1 ounce.
	Oil of cloves, $\frac{1}{4}$ ounce.

Although the proportions of these ingredients differ, as stated in the formulas in the respective patents, yet taking into consideration these two facts—first, that the defendants use the solution of

chloride of zinc instead of the dry salt, five pounds of the former being equal to three pounds of the latter; and the other fact that the corrosive sublimate is so acted upon by the oil of cloves that a portion of it is changed to calomel, which is not proved to have any antiseptic or otherwise beneficial effect on the paste, and, therefore, may be rejected, it will be found that when the formulas in the respective patents are applied to the same aggregate quantities, the proportions of the essential ingredients will be substantially identical in both.

Regarding the invention or subject matter of the complainant's patent as an entirely new manufacture, it might perhaps be sufficient in this case to find, what we think the evidence discloses, that the defendants make substantially the same thing, whether by the same or a different process. The defense is put substantially on the ground that in the manufacture of the defendants' paste the substitution of one class of ingredients in the place of another, described in the complainant's specification, renders their process substantially different from the process of complainant. It is necessary, therefore, to determine whether in this composition of matter the defendants have or not substituted in the place of one or more elements, known chemical equivalents; for, by such substitution of chemical equivalents, patents may as well be infringed as by mechanical equivalents. When a new composition of matter or process of manufacture is invented and patented, it is easy for the chemist, with the aid of the specification in the inventor's patent, to suggest changes in the process by the substitution of chemical equivalents which may produce similar or better results. It does not necessarily follow that such a use of chemical equivalents would not infringe the patent, even if in some respects they were improvements on the original process patented.

Four classes of ingredients are common to the two patents. The first class of substances common to both is found in the material which gives the adhesiveness and forms the paste, viz: the flour. The second class is the bichloride of mercury, which arrests the putrefactive decomposition of the flour by its antiseptic action. The third class is a metallic chloride, which increases the solubility and assists in the diffusion through the mass of the paste of the bichloride of mercury, and perhaps performs another

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function in preventing the fermentive action of the glucose on the starch. The fourth class is alum, a substance added to give greater body to the paste. The materials used in the first, second, and fourth classes are identical in the process of the complainant and the defendants. In the third class the material in each is a metallic chloride—in one the chloride of sodium, in the other the chloride of zinc. Is the metallic chloride, which the defendant uses in his process, a known chemical equivalent for the metallic chloride which the complainant uses—not a chemical equivalent in every respect and for every purpose, but an equivalent in this particular process, contributing to produce the same composition of matter by substantially the same chemical action in combination with the other ingredients of the product? Such chemical equivalents are referred to in both patents; the complainant's patent claiming in terms the use of substantially the same or equivalent articles, if they accomplish the same purpose in substantially the same manner; and the respondents' specifying the other salts of zinc, such as the sulphate and the acetate, and also the chloride and the sulphate of copper, as equivalents to be used in place of the chloride of zinc.

Now, it is obvious that, for all purposes, and in combination with all other substances, the chloride of zinc is no more a chemical equivalent for the chloride of sodium than under all possible conditions the sulphate of copper referred to in the specification of defendants' patent would be a chemical equivalent for the chloride of zinc; but it is equally obvious from the testimony in this case that, for the purposes of manufacturing the product of a preserved and innocuous paste, the chloride of sodium and the chloride of zinc are, when used as described in the respective patents, practically the equivalents of each other, because, in the process of manufacture, they practically produce the same results. Starting from the platform of the plaintiff's patent, with the advantage of his discoveries, it is plain that the defendant could, by inquiring of any chemist, have learned that the one could be used in this process in place of the other with like results. This information he appears to have obtained of Dr. Jackson. From him, or some other chemist, he obtained the information that the other salts of zinc and the other salts of copper would for this purpose be the chemical equivalents of each other and of

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the chloride of zinc. His knowledge in either case was not the result of discovery or experiment. He appears to have started with an appropriation of the complainant's invention, and to have proceeded in precisely the same way as a person who, after having examined a patent for a machine containing several well-known mechanical contrivances in combination, should go to a mechanical expert to substitute some one or more mechanical equivalents for the contrivances in the patented machine, hoping thereby to take his machine out of the monopoly of the patent.

Every specification is to be read as if by persons acquainted with the general facts of the mechanical or chemical science involved in such inventions. The specification of the parts in a mechanical or chemical process is a specification to ordinarily skillful mechanics or chemists of the well-known mechanical or chemical equivalents. If there are equivalents, mechanical or chemical, existing, but previously unknown to ordinarily skillful mechanics or chemists, these are not included in the specification, unless expressly stated therein. These are, in fact, new discoveries in themselves, independent of the specification, and may be used by all persons without infringing the patent.

It is further claimed that, by the action of the oil of cloves in the defendants' formula upon the corrosive sublimate, calomel is produced, and therefore the corrosive sublimate does not act upon the albumen in the flour, forming an albuminate of mercury, as in the complainant's process. But it is evident from the proofs in the case that only a portion of the bichloride of mercury is thus acted upon by the oil of cloves, leaving sufficient for the action upon the albuminous portion of the flour, which the defendant describes in his specification by stating that "the objection to the use of corrosive sublimate in this composition is met by the fact that the gluten of the flour neutralizes the poisonous effect of the corrosive sublimate." The practical effect of the addition of the oil of cloves in the defendants' process upon the bichloride of mercury seems only to convert a portion of it into a substance of little or no use in the process, and to leave the chemical action of the residue upon the nitrogenous portions of the flour identical, substantially, with that in the complainant's patent, both as to the compound formed and the proportions of the elements effectually operative in forming it. If the preservative action in the defend-

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ants' paste results from the action of the chloride of zinc, and is not due to the action of the bichloride of mercury upon the albuminous portions of the flour, defendant can omit the use of the corrosive sublimate, or any well-known chemical equivalent of it, and make a paste which would not infringe upon the rights of the complainant. The essence of the complainant's discovery was that the use of a very minute quantity of corrosive sublimate (in the proportion of about three grains to a pound of flour) would, in combination with another chloride or equivalent salt, arrest the tendency to fermentation in the paste without imparting to it any poisonous properties.

The conclusion, therefore, to be deduced from the evidence in the case is that, so far as the ingredients in the two pastes are different, they are substantially the equivalents of each other; and, if there be any slight difference in the specific action of any of the ingredients upon each other, yet that the general results produced by the action upon each other of the several ingredients are alike, and the two pastes are substantially the same.

Decree for complainant.

JACOB E. BUERK

vs.

DENNIS VALENTINE. IN EQUITY.

The reissued letters patent for an "improvement in watchman's time-detectors," granted to Jacob E. Buerk, as assignee of John Burk, the inventor, March 8, 1870, for fourteen years from October 29, 1856, the original patent having been granted to Buerk, January 1, 1861, for fourteen years from that day, and reissued to him August 22, 1865, for the residue of such last-named term, are valid.

Burk, having obtained in France, October 29, 1856, a patent for his invention, it was proper to correct, by a reissue, the error in granting the patent in the United States otherwise than for fourteen years from that date.

Making a prior device, which will serve the like useful purpose, is not nec-

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essarily anticipating an invention. Where the mechanical means employed are different, and the mechanical result is different, one does not anticipate the other.

Whether the letters patent granted to Jacob E. Buerk, as inventor, June 6, 1865, for an improvement on the time-detector described in the said patent of 1856, are valid, *quære*.

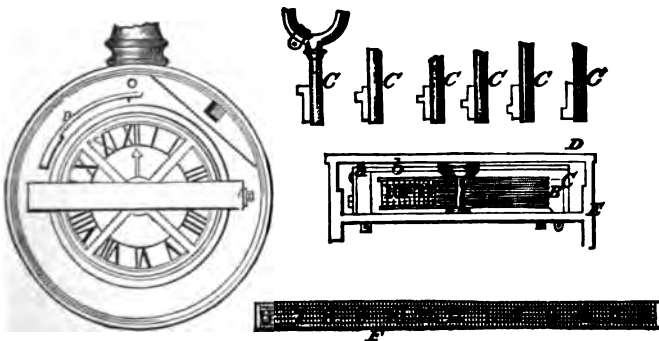
The defendant's apparatus held to be an infringement of the plaintiff's patent, where its mechanical construction was the same in all that constituted the principle or mode of operation of the plaintiff's apparatus, and gave it efficiency in securing the object of the invention.

(Before WOODRUFF, J., Northern District of New York, March, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for "improvement in watchman's time-detectors," granted to complainant, as assignee of John Burk, January 1, 1861, for fourteen years from that date; reissued August 22, 1865, and again reissued March 8, 1870, for the residue of the term of fourteen years from October 29, 1856, the date of a French patent granted to the inventor. Also upon letters patent for an "improvement in watchman's time-detector," granted to the complainant June 6, 1865.

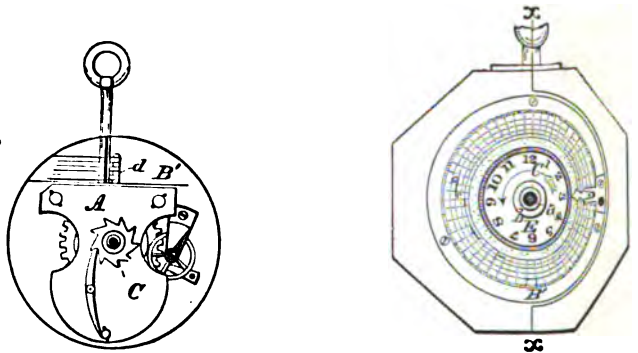
The nature of the invention is fully set forth in the opinion.



The above engraving represents the detector described in the first patent. The strip of paper, F, marked with the hours, is wound about a drum, moved by clock-work. A series of steel-bars, B, corresponding in number to the longitudinal divisions on the paper, were so arranged as to be forced by the bit of a key

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against the paper, when a short point, projecting at right angles near the end of the bar, made a perforation in the paper. Each of these bars was operated by a separate key, and these keys were placed in separate rooms. A perforation therefore indicated that the watchman was present in the room, represented by that longitudinal division, while the position of the perforation in the vertical divisions of the paper indicated the hour and fraction of an hour at which the visit was paid.



The above engraving represents the modification of the foregoing apparatus, described in the second patent, in which the strip of paper was replaced by a disk, B', the perforations being made by a series of bars and points, d, having their location so changed as to adapt them to the change in the position of the dial.

J. Van Santvoord, for complainant.

C. W. Smith and N. B. Smith, for defendant.

WOODRUFF, J.

This is a suit brought to restrain the alleged infringement of two patents, and for an account of gains and profits accruing to the defendant by such infringement, and for damages.

The patent first set out in the bill of complaint is based upon an alleged invention by John Burk, of Schwenningen, in the kingdom of Wurtemberg, made prior to January 1, 1861, and assigned to the complainant December 3, 1860. The original patent was granted to the complainant January 1, 1861, and pur-

ported to grant to him the exclusive right to make, use, and sell, etc., for fourteen years. This patent was surrendered and reissued August 22, 1865, for the residue of the term of fourteen years from January 1, 1861. John Burk, the alleged inventor, having, as early as October 29, 1856, obtained a patent for his invention from the government of France, it was perceived that the patents issued in the United States to the complainant had erroneously granted the exclusive right for fourteen years from January 1, 1861. The complainant, therefore, again surrendered his patent, and the same was reissued March 8, 1870, for the term of fourteen years from October 29, 1856, the date of the inventor's French patent. The patent and such reissues are for an "improvement in watchman's time-detectors."

The other patent alleged in the bill to have been infringed by the defendant was granted to the complainant himself, as the inventor of an alleged improvement upon the time-detector described in the other patent. It was granted June 6, 1865, for the term of seventeen years thence next ensuing.

The invention described in the first patent, as reissued to the complainant in 1870, provided for the watchman a watch, which he carried with him in his rounds, so constructed that, by the insertion of a key provided at each of the stations which he was required to visit, he could make, within the watch, a record indicating the several stations visited, the precise time of each visit, and, of course, the order in which the visits to the respective stations were made. The watch was provided with a lock, so that the watchman had no access to its interior; and, as the record of each station could only be made by the peculiar key which belonged to such station, and was there secured or made fast, the watchman could make no false record or deceive his employers. Without entering into unnecessary detail, it will be sufficient, in the first instance, to say that this was effected by using a watch or small portable clock movement, inclosed in a strong case, the lid of which could be locked, the employer retaining the key. To the arbor of the watch, upon which the hour-hand was placed, a drum was attached, so as to revolve as the hour-hand revolved. The circumference of the drum was a little greater than the ordinary watch-dial, and its surface was of width suitable to receive

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the paper next mentioned. Around the circumference of the drum was placed a strip of paper. By marks thereon, the paper was divided into spaces, corresponding in their position relatively to the center of the watch, to the hours and minutes of the watch-dial; and, by lines drawn lengthwise, it was also divided into several spaces, corresponding in number to the number of markers to be used, as next mentioned. Exterior to the watch-movement, but within the case, there were placed several small steel bars or springs, terminating each in a point bent at right angles, while the other end was fixed firmly to the circular plate or frame of the watch-movement. These springs were placed and held in a gauge, one above another, so that the points were in a row perpendicular to the watch face, at and exterior to the point on the dial of the watch, indicating the hour of twelve; and each point was directly opposite one of the longitudinal spaces in the strip of paper around the circumference of the drum. In this position, it is obvious that, if the point of one of the springs was pressed inward upon the revolving drum, it would perforate the paper within its proper longitudinal division, and the perforation would show the hour and minute at which it was made; and, in order to permit such perforation without injuring the steel point, the periphery of the drum was channeled by narrow longitudinal grooves beneath each of the said longitudinal spaces in the paper placed thereon. Keys were provided, which varied from each other in the location of the bit thereon, in the width of such bits, and also in the number of bits, in such wise that one of the keys being inserted in a key-hole contiguous to the steel springs, and turned, the bit of the key would press one of the springs inward upon the paper, and make one perforation; another key would press two springs inward, and make two perforations; another three, and so on; and one key would press the first of the springs, another the second, another the third, and so on; and one key would press inward the first and second, another the first and third, another the first and fourth, another the second and third, another the second and fourth, another the third and fourth, another the third and fifth, and so on, through all the variations of which the number of springs used was susceptible; and, one key being fastened at each station, the marks or punctures which would indicate a visit to that station could not be made by any other key,

nor by any means but by an actual visit to that station and the use of the key there suspended.

The claims in the specification annexed to the reissued patent for this invention are : 1. The drum, carrying a removable piece of paper, or other suitable material, marked or divided off in a convenient number of parts, in combination with a chronometer movement or time-piece, and with one or more marking devices, substantially as and for the purpose set forth. 2. The combination of the marking devices, fastened internally to a time-piece, with a watch-movement, and with a series of keys, and a surface for receiving marks, substantially as described.

The invention described in the second patent, and claimed to be the invention made by the complainant himself, was for the same purpose as the other, and is only claimed as an improvement thereon. In its main features, it consisted in removing the drum entirely and the paper wound thereon. It attached a circular disk to the arbor of the hour-hand, to revolve therewith, and attached thereto a circular flat paper dial of larger diameter, divided by radial lines corresponding with the hours and minutes of a watch-dial, and having a portion of its exterior divided into spaces by circular lines drawn at uniform distances, such spaces corresponding, as the paper disk revolved, to the location of the steel points next mentioned. Beneath the circular plate forming the support or frame of the watch-movement, the gauge of steel bars or springs was firmly attached to such plate, in such position that the points were in a straight line radial to the center, and over each point was a hole in the said plate, so that each spring could be pushed upward, the point thereof passing through the hole and upward, sufficiently to perforate the revolving paper dial, in the space corresponding to the point of the spring so raised. Over the row of holes was placed what is called a fixed index—a small strip of metal fastened to the circular plate or frame of the watch, and extending toward the center of the disk, raised sufficiently above the revolving disk to permit the paper dial to revolve freely under it and over the holes through which the spring points were to rise ; and, to prevent injury to those points, holes were made in its under surface, opposite each point, into which the points, as they rose and perforated the paper, would enter, and then, by the power of the spring, be immediately with-

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drawn to their respective positions below such plate. The keys were the same as used in the former invention, and were inserted in a key-hole so located that the bits of the keys, when turned, forced the springs upward instead of inward, as before—the springs lying flat upon or near the inner surface of the circular plate or frame before mentioned. By this means, the perforation was made in the exterior portion of the revolving paper dial, and the place of perforation indicated the precise hour and minute it was made, and the particular keys by which it was made, with all the variations above stated as to the former patent; and the perforations were all from beneath the paper, upward, through it.

The claims of this patent are: 1. The use of the false revolving dial, in combination with the stationary index and spring points, constructed and operated substantially as and for the purpose set forth. 2. Producing the perforations on the paper dial, or its equivalent, from the inside out, instead of from the outside in, as before.

The defendant imports and sells a watchman's time-detector, which serves the same purpose as those above described, and is operated by keys having like bits, and varied in the same manner in the location of the bits. It is susceptible of like variations in the form of the keys, to adapt it for use at numerous stations. It makes the record by perforations in a revolving paper dial, attached to a circular disk fastened to the arbor of the watch on which the hour-hand is placed. That paper dial is divided in the same manner as is above described, and the perforations are made by the points of steel springs arranged in a like gang side by side, moved by the bit of the respective keys in like manner.

The leading feature in which it differs from the time-detector, as alleged to be improved by the devices mentioned in the complainant's second patent, is this: The gang of steel springs, instead of being placed beneath the circular plate or frame of the watch-movement, is attached to the lid of the case of the instrument, immediately over the location of the gang of springs in the complainant's detector. When closed, the line or row of points is in the same straight line radially from the center; and, in order to perforate the paper dial, they must be pressed downward, instead of upward. To that end, the key-hole is placed in the side of the lid, over the gang of springs, instead of being

placed in the body of the case, below the springs, as in the detector of the complainant. Instead of the complainant's fixed index, placed over the holes, through which, in his detector, the points rise to perforate the paper, there is, in the same location, a row of holes in the plate or frame of the movement, into which the points enter, to protect them from injury when making the perforation. The necessity of making such fixed index in such manner that it will sustain the paper during the act of perforation, being obviated by making the motion of the springs downward, whereby the plate of the watch performs the same office during such act, a mark in the form of an arrow is made on the plate or frame, opposite the row of holes which performs the office of the index, in indicating the point corresponding with the figure 12 of the watch-dial, as a guide in setting the paper dial when the watch is placed in the hands of the watchman.

There are some minor differences in the manner in which the paper disk is attached to the revolving disk upon the arbor, but they are deemed to be very clearly not of the substance of the complainant's invention; and the examples which are produced as exhibits show also a watch-dial and hands on the defendant's detector, which does not appear in the complainant's; but that is matter which is not supposed to be included in the complainant's patent, or to be, in itself, any infringement. This, however, involves another variation in the marking and figuring of the paper dials. As the complainant's dial is placed on what is ordinarily the face of the watch, and revolves as the hour-hand revolves, the figures thereon denoting the time (and passing successively under the index, where perforations may be made), are necessarily printed in an order in reverse of the figures on the watch-dial; while, in the defendant's detector, as the paper dial is put on the other end of the arbor (opposite the face of the watch) the figures on the paper dial are printed in the same order as on the face of the watch, but the motion thereof relatively to the points for perforation is reversed. The results of the revolution, in respect to the record of the time, are therefore the same in each. If, in either of these points of difference, the detector of the defendant is an improvement, that alone will not protect the defendant from liability, if the complainant's patents are valid, and the devices protected thereby are, in substance, incorporated in such detector.

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It is, I think, entirely clear that John Burk was the inventor of the detector for which the patent was granted to the complainant, as his assignee. No one of the prior devices mentioned in the proofs contains a combination of spring points to be operated upon by a series of keys (susceptible of numerous combinations), with a watch-movement, all in one case, carried by the watchman, and, by successive punctures, indicating the particular key, and thereby the station at which it was made. Still less is it true that any prior device was constructed in the same manner, or by the use of mechanical equivalents. Most of the detectors were stationary, and operated in an entirely different manner.

Biram's tell-tale was operated by the pressure of the hand of the person desiring to register his presence on a pin or button exterior to the instrument. He could make that record wherever the instrument might be, and nothing in the record indicated the visit of the watchman to more than the single station where it was. He could make as many records as he saw fit, without at any time moving from the one place.

Rowbotham's device was simply to print upon a revolving paper, within the case of the watch, the impression of various type keys or stamps, dipped in colored ink from a reservoir in the watch case. The differing form of the keys or stamps at the successive stations may have been useful in disclosing the time and place where the marks were made, and so disclosing the fact and the time of the visit to each station. This may have been more or less efficient in accomplishing the purpose of a detector; but, as a machine or mechanical structure, it was not like the plaintiff's. Making a prior device, which will serve the like useful purpose, is not necessarily anticipating an invention. Where the mechanical means employed are different, and the mechanical result is different, one does not anticipate the other. If this were not so, an inventor who had made a machine which would serve a useful purpose would exclude all others from the right to a patent for other mechanical devices or combinations producing the like useful result in other modes, or producing a different mechanical result which served the same purpose.

This is also true of a device shown in the evidence, as described in the German publication called "The Polytechnisches Central Blatt, for 1855." There is much obscurity in the

description there given, and it is at least doubtful whether it is sufficiently clear or specific to enable a skillful mechanic to construct the instrument by that mere description. Probably, by the use of inventive skill, he might contrive auxiliary devices supplying the omissions, so that the instrument could be operated; but whether, when completed, the instrument would be the same in respect of those devices as the machine of which such imperfect description is given, is, at least, very doubtful. If, however, he should succeed, the instrument would, in mechanical construction and operation, be unlike the complainant's detector. It would have but one marker. The marker must be moved from its ordinary position at each station visited. For this purpose it requires as many key-holes as there are stations, the key at each station operating upon it in a different manner. The number of keys which it would be possible to apply to the marker must, of necessity, be very few, and, of consequence, the number of stations at which it could be used must be small. It has no capacity, by combination of marks or punctures, to furnish a record at many stations, either by one key at each, or through the same key-hole. The minutes of the Leipsic Association, in 1864, not only recognize the invention of John Burk, but they are subsequent to his foreign patent, and subsequent to the original patent of 1861, granted to the present complainant. In that view it is not necessary to decide whether, in fact, it was such a publication as would, in any event, impair the validity of a patent issued in this country after its date.

I do not deem it necessary to decide how far the invention described in the patent granted to the complainant in June, 1865 (in which the circular paper dial is substituted for the paper strip described by John Burk), was anticipated by the invention of John Burk. Some of the testimony seems to indicate that the substitution of the revolving disk for the drum, and the circular dial for the strip of paper around the drum, together with the adaptation of the spring points by an arrangement which made the perforations of the paper disk practicable, were but a substitution of merely equivalent devices. I certainly can not express my concurrence in that view of the two patents. But, for the purposes of this case, it is enough to say that, if such changes were the mere use of equivalents, then the reissued patent of

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1870 embraces both forms or modes of construction, and the defendant is in no wise aided. The question of infringement still be, does the defendant's detector infringe either? Nor regard that as seriously questionable. He employs every substantial device in the detector as now made by the complainant and described in his patent of June 6, 1865, above recited, only that he places the springs in the lid of the box or case, perforating therewith downward, instead of placing them under the plate or frame supporting the watch movement, and perforating therewith upward, thereby dispensing with the special form what is called the fixed index, but for which, as an index serves to point to the hour at which the revolving dial should be set, he substitutes the mark of an arrow at the same point. Whether this change in the location of the springs is or is not an improvement, it is no part of my duty to say. There is some evidence that it is, because there is no opportunity for the entrance of dust through the key-hole, to the works of the watch. On the other hand, the partition, in the specimen of the complainant's detector produced in evidence, entirely separates the complainant's springs and the key-hole leading thereto, from the watch movement, so that no dust can enter, and obviates the supposed disadvantage. Be that as it may, the mechanical construction is the same in all that constitutes the principle or mode of operation of the instrument, and gives it efficiency as a record of the watchman's visits to the several stations. It violates, in terms, the second claim of the reissued patent of 1870; and, if the paper dial and the revolving disk are equivalents of the drum and strip of paper around its periphery, then it violates the first claim of the patent. It also violates the first claim of the complainant's patent of June 6, 1865. Reversing its position so that the dial perforates downward, instead of upward, can not avoid that conclusion. Notwithstanding, by so doing, the defendant is able to substitute the mark of an arrow for the stationary index in the complainant's instrument.

As already remarked, the minor specific differences in the mode by which the paper dial is held upon the revolving disk, and the like, do not affect the substance of the inventions. If they are improvements, the defendant is at liberty to use them if he obtains a license from the complainant to use his invention.

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I am, also, of opinion, that the error testified to have been a mistake, by which the original patent of 1861 was granted for fourteen years from that date, can not affect the complainant's rights under his reissued patent of 1870, whereby that mistake was corrected. Independent of the question whether the reissued patent can be thus collaterally impeached, I think it sufficiently appears that the error was a proper one to be corrected by a reissue; and, if so, then the complainant's rights are not other than those of any inventor whose first patent is void for mistake or error, which is corrected by a reissue. He can not recover for alleged infringements prior to the reissue, but may for subsequent infringements. Nor, in such case, will the notoriety or use of the patented invention, after his first application, and prior to the reissue, render such reissue void, although the original patent issued on such application was wholly invalid. If I was brought, however, to the conclusion that the complainant could not sustain the reissue on the ground last referred to, it would still remain true that the defendant's detector infringes the first claim of the patent of June 6, 1865.

The complainant is entitled to a decree awarding an injunction and account, as prayed in his bill.

THE RUBBER-TIP PENCIL COMPANY

vs.

SAMUEL E. HOWARD ET AL. IN EQUITY.

The letters patent for a rubber-head for lead-pencils, granted to J. B. Blair, July 23, 1867, the claim of which is, "An elastic, erasive pencil-head, made substantially in manner as described," are void.

The claim is one to a piece of India-rubber with a hole in it, and is invalid for want of invention.

(Before BENEDICT, J., Southern District of New York, March, 1872.)

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FINAL hearing upon pleadings and proofs.

Suit brought upon letters patent for an "improved rubber-head for lead-pencils," granted to J. B. Blair, July 23, 1867, and assigned to complainants.

The nature of the invention is fully stated in the opinion. Two of the forms of application described in the patent are shown by the engraving.

John S. Washburn, for complainants.

Frederic H. Betts, for defendants.

BENEDICT, J.

This action is founded upon a patent for a rubber-head for lead-pencils, issued to J. B. Blair, July 23, 1867, and numbered 66,938. The novelty of the invention and the validity of the patent are put in issue.

The proper construction of the patent is the question first presented. The specification states the invention to be "a new and useful cap or rubber-head, to be applied to lead-pencils, etc., for the purpose of rubbing out pencil marks." It then describes as follows: "The nature of my invention is to be found in a new and useful or improved rubber or erasing head for lead-pencils, etc., and consists in making said head of any convenient external form, and forming a socket longitudinally in the same to receive one end of a lead-pencil, or a tenon extending from the pencil. The said head may have a flat-top surface, or its top may be of a semicircular or conical shape, or any other that may be desirable. Within one end of the said head I form a cylindrical or other proper cavity. This socket I usually make about two-thirds through the head, and axially thereof; but, if desired, the socket or bore may extend entirely through the said head. The diameter of the socket should be a very little smaller than that of the pencil to be inserted in it. The elastic erasing-head so made is to fit upon a lead-pencil at or near one end thereof, and to be made so as to surround the part on which it is to be placed, and to be held thereon by the inherent elasticity of the material of which the head may be composed. The head may be composed of India-rubber, or India-rubber and some other material."

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material which will increase the erasive properties of the head, such as powdered emery, for instance." The article is further described by drawings, which, the specification states, "exhibit the elastic head, so made as to cover the end, as well as to extend around the cylinder sides of the pencil; but it is evident that the contour of the said head may be varied to suit the fancy or the taste of an artist or other person; and I do not limit my invention to the precise forms shown in the drawings, as it may have such, or any other convenient form for the purpose, so long as it is made so as to encompass the pencil and present an erasive surface about the sides of the same." The specification further states, that "the elastic or rubber pencil-head, made as above set forth, may be applied, not only to lead-pencils, but to ink-erasers and other articles of like character." The claim is for "an elastic erasive pencil-head, made substantially in manner as described."

In considering the effect of this language, it is to be noticed that the invention is not stated to be a combination, but a single article of manufacture, namely, "an elastic erasive pencil-head." The peculiarity in this article, by reason of which the inventor supposes himself entitled to secure it as his own, is not stated to consist in its elasticity. That is a quality of the material to be used, which is India-rubber. Nor does it consist in its erasive capacity. That, also, is solely due to the material out of which the article is manufactured. An effort has been made to show that the erasive capacity of the Blair head is increased by means of certain swells or projections on the sides of the head, which are portrayed in the drawings, and supposed to be indicated in the specification, as a feature of the invention claimed. But I find no language which can fairly be said to convey the idea that such swells or projections form a part of the invention. On the contrary, the description states that the heads may be of any convenient external form, and expressly declares that the invention is not limited to the precise forms shown in the drawings, but may have any convenient form, "so long as it is made so as to encompass the pencil and present an erasive surface about the sides of the same." The phrase last quoted from the specification discloses what is the real and only feature of the article in question upon which the right to it is based; and this characteristic is one of form, but not of what is called, in the specification, external

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form. The characteristic form which the inventor claims to have invented, is, broadly, any form which will enable the rubber to encompass a pencil, ink-eraser, or other articles of like character. The additional words, "and present an erasive surface about the sides of the same," add nothing to the description, as it is impossible to have a piece of rubber encompass a pencil, ink-eraser, or other article of similar character, without presenting an erasive surface about the sides of the same. From this form which the inventor gives to a piece of rubber—otherwise, to be of any convenient form—and from this form alone, does his article derive its value, as distinguished from rubber in any other form. By means of this form any person is enabled easily to attach the rubber to a pencil, ink-eraser, or other article of similar character; and the only useful result attained by the invention in question, is, that the head can be so easily attached to any pencil. Now, what is it that accomplishes the useful result attained by the Blair pencil head? Simply the hole made in the rubber. There must be a piece of rubber, with a cavity in it, to constitute such a pencil head as Blair's specification describes; and there need be nothing more. The cavity may be round, square, or any other shape. It may go through, or partly through, the piece of rubber; and it may be of all sizes. The article sought to be secured by the patent, briefly, and yet, as I think, fully described, consists, therefore, of a piece of India-rubber with a hole in it. I am unable to fix any other limitation to the invention, by any fair use of the language employed in the specification and claim. Such an article can not be the subject of a patent. The elastic and erasive properties of India-rubber were known to all, and gave to that substance the name by which it is generally designated, and how to make a piece of rubber encompass and adhere to another article was known to every person who had ever seen a rubber shoe. No person knowing of the elastic quality of rubber could be wanting in the knowledge that a piece of rubber could be made to encompass and adhere to a pencil, ink-eraser, or other article of similar character, by making a hole in it, nor could any one be deficient in the skill requisite to make such a hole.

I am of the opinion, therefore, that the patent in question cannot be upheld for want of invention. This conviction, which I have been unable to escape, renders it unnecessary for me to

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press any opinion upon the question of abandonment, so largely discussed at the hearing, or to determine whether the patent in question is for the same invention described by Joshua Gray, in his application for a patent, and by others, who have been relied on by the defense as showing prior invention.

A decree must be entered dismissing the bill, with costs.

WILLIAM WILLIAMS

vs.

CALVIN A. LEONARD ET AL. IN EQUITY.

In a suit in equity, for the infringement of letters patent, brought before the passage of the act of July 8, 1870 (16 U. S. Stat at Large, 206, 216, secs. 55, 111), both profits and damages can not be recovered.

An interlocutory decree in such a suit, entered after the passage of such act, inadvertently provided for the recovery of both profits and damages. The report of the commissioner reported both profits and damages, and was excepted to by the defendant, on the ground that the damages could not be recovered in the suit: *Held*, that the point could not be raised by an exception to such report, but that, nevertheless, the court would not award any damages, and would resettle the interlocutory decree, so as to exclude them.

In an accounting for profits, the defendant can not be credited with a sum of money as a salary earned by and paid to himself, while engaged in the business which earned the profits.

(Before WOODRUFF, J., Northern District of New York, March, 1872.)

EXCEPTIONS to master's report.

The facts are fully stated in the opinion.

F. A. Macomber, for complainant.

H. H. Woodward, for defendants.

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WOODRUFF, J.

The form of the interlocutory decree in this case warranted the commissioner in reporting both the profits made by the defendants, by infringing the patent of the complainant, and also the damages (over and above or beyond the amount of those profits) sustained by the complainant, as allowed in actions brought after the passage of the act of July 8, 1870. (16 U. S. Stat. at Large, 206, 216, secs. 55, 111). Whether any language can be found in the opinion of the court, delivered after the hearing of the cause on pleadings and proofs, that seemed to warrant such an interlocutory decree, I am not able, from recollection, to say; but it is quite certain that the court did not intend to decide that, in a suit brought in equity before the passage of that act, both profits and damages can be recovered. Section 111 declares that actions and causes of actions then existing may be commenced and prosecuted, and that suits then pending may be prosecuted to final judgment and execution, in the same manner as though the act had not been passed, and that the remedial provisions of the act shall be applicable to all suits and proceedings thereafter commenced, although the cause of action may have arisen before. The provisions of the statute regulating the form of action, and prescribing the measure of recovery, at law or in equity, are provisions applicable especially to the remedy; they are among the "remedial provisions." When they were declared applicable to all suits thereafter brought, as an exception to language importing that prior causes of action, not yet prosecuted, should be commenced and prosecuted, and suits commenced should be prosecuted to judgment, in the same manner as if the act had not been passed, the negative implication is plain that those remedial provisions which were new have no application to suits then pending. In construing an exception, the *expressio unius* is eminently the *exclusio alterius*.

The interlocutory decree is wrong. Had such a decree been entered by consent, the defendants might be bound by it; but I presume it was entered without the attention of counsel being called to the construction of the statute. How it was settled does not appear.

But, in so far as the exceptions to the report of the commis-

sioner are addressed to this point, the defendants have mistaken the mode of correcting the error. The report conforms to the decree, and therefore is not, in this particular, the proper subject of exception. The court should have been applied to, to resettle the decree.

Nevertheless, it is not too late to make the correction. Entertaining the opinion above expressed, the court will not proceed to a final decree against the defendants, which it deems not warranted by law; and the facts reported in detail by the commissioner will enable the court to decree the recovery of the gains and profits made by the defendants by the infringement, excluding damages beyond that amount. The complainant had his election, to proceed for such gains and profits, or to sue for damages, and he chose the former. As to the result of such election, the law has not been changed since he brought his suit, and it is no hardship that he is held to his election.

As to the "salaries" of the defendants during the period in which they have been engaged in infringing, they have no title, as against the complainant. It would be very great injustice, if the *quantum* of gains and profits recoverable by a complainant depended on the question, how much of such gains and profits the defendants used for their own support, or the support of their families; or, as even more broadly claimed here by the defendants, how much they saw fit to appropriate to their own use. Infringers would rarely be required to pay over anything, if they could divide the gains and profits among themselves, under the name of salary, wages, or any other designation. Men work for gains and profits, but they are gains and profits still. Men support themselves and their families out of their gains and profits, but that does not change their nature. If it were not so, inventors might, by reason of infringements, fail to obtain anything, and the infringers obtain what they see fit to term adequate salaries, out of their piracy. What, in good faith, the defendants pay to others, as expenses, may be taken as the cost to them of their manufacture. What they take to themselves are gains. They might, perhaps, have earned and gained as much, or perhaps more, by laboring in some other business, in no violation of the rights of their neighbor; but they can not be permitted to gain either wages or salary by a violation of such rights.

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The exceptions, as exceptions, must be overruled, with costs, but the interlocutory decree should be resettled and entered, and the amount of gains and profits, which, as I understand the report, are \$1,668 19-100, should be awarded by the final decree with interest thereon, and the costs of suit.

MARY FRANCES MCCOMB AND JAMES JENNINGS MCCOMB

vs.

GEORGE BRODIE.

There may be a claim for two inventions in the same patent if they both relate to the same machine or structure; and an action can be maintained for the infringement of either one of these separate inventions when claimed as separate and distinct in their character.

Where plaintiff's patent covered three different features of invention, suit was brought on one claim only, the jury were instructed to consider the case precisely as if the patent covered that claim alone.

The third claim of letters patent for cotton-bale tie, granted Fred Cook, March 2, 1858, construed to be for the right to use an open cut in a buckle, which, without the cut, would be a closed buckle as to allow the end of the tie or hoop to be slipped sidewise underneath the bar through which the slot is cut.

If a party uses the open slot for passing the end of a cotton-tie sideways under the slotted bar, it makes no difference whether such end is in the form of a loop or not, if the result attained is, that the end of the tie has been "slipped sidewise through the slot underneath the bar so as to effect the fastening with greater rapidity than by passing the tie through endwise."

A man can not have two patents for the same process, because for different purposes.

When the means, devices, and organization are patented, the patentee is entitled to the exclusive use of this mechanical organization, device, or means, for all the uses and purposes to which it can be applied without regard to the purposes to which he supposed, originally, it was most applicable.

To constitute infringement, the contrivances must be substantially identical.

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cal, and that is substantially identity which comprehends the application of the principle of the invention.

If a party adopts a different mode of carrying the same principle into effect, and the principle admits of different forms, there is an identity of principle though not of mode; and it makes no difference what additions to, or modification of, a patentee's invention a defendant may have made: if he has taken what belongs to the patentee, he has infringed, although, with his improvement, the original machine or device may be much more useful.

All modes, however changed in form, but which act on the same principle and effect the same end, are within the patent; otherwise, a patent might be avoided by any one who possessed ordinary mechanical skill.

The rule of damages at law is not what the defendant has made, or what he might have made, but it is the loss sustained by the plaintiff by reason of the infringement.

If plaintiff was ready to supply the market with his patented goods, and his business was hindered or interfered with by the competition of defendant, plaintiff's damage will be the amount of profit which he has lost by reason of such interference.

If a plaintiff neglects to prove that his patented article was stamped, or that he gave to the infringer the notice required by section 38 of act of July 8, 1870, a jury can not award him more than nominal damages.

(Before Woods, J., District of Louisiana, March, 1872.)

ACTION at law, tried before Judge Woods and a jury.

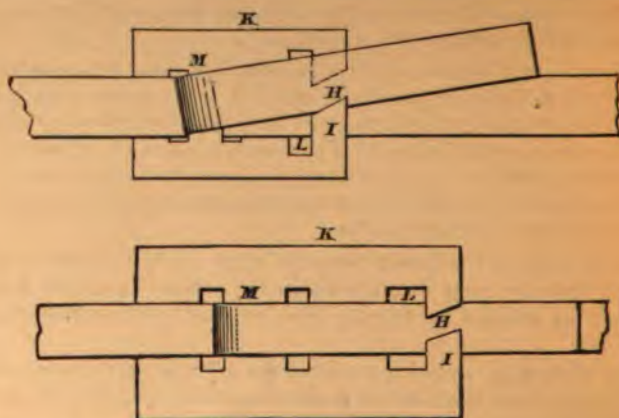
Suit brought upon letters patent for an "improvement in metallic ties for cotton-bales," granted to Frederic Cook, March 2, 1858, and assigned to plaintiffs.

The defendant, by way of reconvention, under the code of Louisiana, in addition to the denial of infringement, claimed that the plaintiffs were infringing patent for "improvement in cotton-bale ties," granted to him, March 22, 1859, and reissued April 27, 1869, and prayed judgment for damages against them.

The two actions were tried together.

In the accompanying engravings, K represents the Cook tie, having three slots and four bars. One end of the band was passed over the first bar on the left, through the first slot, under the second bar, through the second slot, and around the third bar. The end was then brought back under the second bar, and thrust through

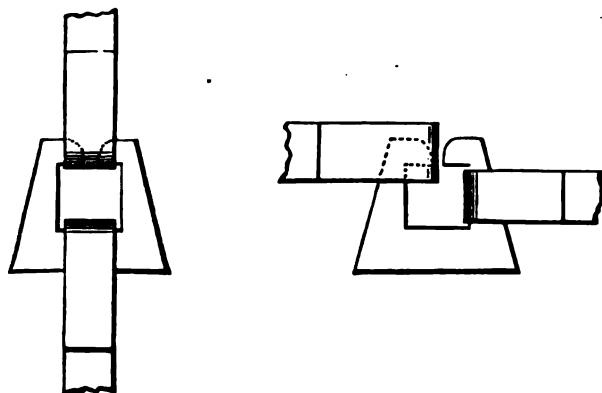
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the first slot and over the first bar. The other end of the band, having passed around the bale, was thrust under the fourth bar, through the third slot, over the third bar, through the second slot, around the second bar, thence back over the third bar, through the third slot, and under the fourth bar. To avoid the necessity of thrusting the end of the band under the fourth bar, the patentee cut a slit or opening, H, through the fourth bar, I, into the third slot, L, so that the band, when the slack was fully taken up and the end was bent over to form the final fastening, could be passed sidewise through the opening into the slot and under the fourth bar, so as to effect the fastening with greater facility and rapidity. In the first engraving, the band is represented as passing through this opening; while in the second, it is shown in its final place. The claim of the patent upon which the whole controversy turned, was as follows:

"The herein-described 'slot' cut through one bar of clasp, which enables the end of the tie or hoop to be slipped sidewise underneath the other bars in clasp, so as to effect the fastening with greater rapidity than by passing the end of the tie through endwise."

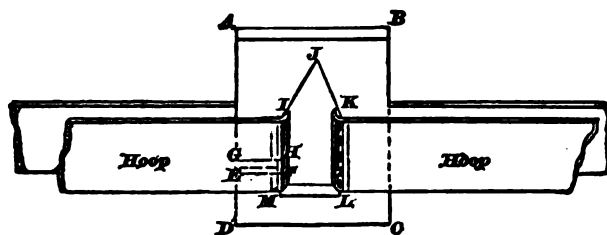
The accompanying engravings represent the tie made and used by the defendant. The ends of the band were bent into the form of loops, and slipped through the opening into the slot. The band was then turned so as to bring the bar through which the slit was cut into the line of draft, the hoop embracing the bar on both



sides of the slit, and the ends of the hoop being kept from opening or slipping by the expansion of the cotton when the bale was released from the press.

The patent of the defendant contained the following claim :

“The connecting link of a bale-tie, having a slit or opening through its side or end, through which the hoop can be introduced into the link, as herein described, and as represented in figures 6, 7, 13, and 14.”



The “arrow” tie, manufactured and sold by the plaintiffs, and the subject of the suit in reconviction, is illustrated by the above engraving, which gives a bottom view of the tie, with the inserted hooks or ends of the band. The end of the band, by which the fastening is effected, is bent into hook form, and the hook slipped sidewise through the opening, E, F, G, H, into the triangular space, I, J, K. The strain upon the band causes the loop to slip back into the rectangular portion of the slot, I, K, L, M, and to cover the opening by embracing the bar on each side of it. The

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ends of the band are held by the pressure of the bale, as Brodie tie.

W. M. Randolph, C. Roselius, J. A. Campbell, and Fisher, for plaintiffs.

Semmes & Mott, for defendant.

Woods, J., charged the jury as follows:

The plaintiffs, Mary Frances McComb and her husband James J. McComb, who sues for himself and to assist his wife, allege that Frederic Cook, March 2, 1858, obtained from the United States Patent Office letters patent of that date for his improvement in metallic ties for cotton-bales, issued to him as the original and first inventor; and that said Cook, for a long time in consideration, afterward assigned to the plaintiff, Mary Frances McComb, the full and exclusive right to his said improvement in invention covered by said patent, whereby, under the laws of the State of Louisiana, both the said plaintiffs have the same right and to the same extent that were granted to said Cook; that they have, since said assignment, and the said Cook before said assignment, and immediately after the issuance of the patent, put the market and sold to the public said invention and ties made on the principle described in said patent; and that the defendant, George Brodie, knowing the rights of plaintiffs, and that they were making large profits by the sale of cotton-ties made on the plan covered by said patent, and with the purpose of invading the rights of said plaintiffs, did, in the year 1861, after the date of said patent and the assignment, make and vend to others to be used, the invention aforesaid, without license from plaintiffs, or either of them, to the amount of one hundred tons of cotton-ties, to the damage of plaintiffs in the sum of ten thousand dollars.

The answer of defendant to this, the plaintiffs' cause of action, is substantially a denial of the averment that he has in any manner violated the rights of petitioners by the manufacture and sale of ties made on the mechanical principle secured by the letters patent; or that he has at any time made, used, or vend to others to be used, the invention described in the letters patent aforesaid.

The defendant, by way of reconvention, also alleges, that on March 22, 1859, he obtained from the United States Patent Office letters patent of that date for an improvement in cotton-bale ties, which said letters patent were surrendered April 27, 1869, and, on that date, a patent with amended specifications and claims was reissued to him; and that since April 27, 1869, plaintiffs have infringed on his said invention, by making, using, and vending to others to be used, large numbers of said ties, made according to the plan patented by him, and without his license, to his damage four hundred thousand dollars, for which amount he, assuming the character of plaintiff in reconvention, prays judgment.

Under the practice in this state, the denial of plaintiff of the reconventional demand of defendant is presumed, and no formal written denial is required. /

This abstract of the pleadings presents the issues of fact submitted for your decision.

Your first inquiry will therefore be, has the defendant invaded the rights of the plaintiffs by making, using, or vending, without their permission, the device or contrivance secured to them by the letters patent issued to Cook?

To maintain the issue on their part, plaintiffs introduce the letters patent granted to Cook, with the accompanying model, draughts, and schedule, showing the claims of the patentee and the assignment to them of all the rights secured by said letters patent.

Whatever invention, therefore, Cook had secured to him by his patent is now the property of plaintiffs.

The schedule referred to in Cook's patent, and making part of the same, and which is in evidence, discloses that the patent was intended to cover three separate and distinct inventions:

1. A friction-buckle or clasp, represented by figures 1, 2, and 3, showing the different views of it, for attaching the ends of iron ties or hoops for fastening cotton-bales or other packages.
2. The manner of looping the ends of the iron ties or hoops into a buckle, by the form of which they are prevented from slipping by friction when the strain of the expansion of the bale comes on the ties.
3. The slot cut through one bar of the clasp or buckle, as shown in the diagram, which enables the end of the tie or hoop

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to be slipped sidewise underneath the bar in the clasp or buckle, so as to effect the fastening with greater rapidity than by passing the end of the tie through endwise.

On this trial plaintiffs say that they complain only of the infringement of the device last above named.

Independent things, separable and separate things, where any combination arises, provided they are cognate, relate to the same invention and have relation to the same subject matter, the same object to be accomplished; undoubtedly these separate claims can be made in the same patent. *Densmore v. Schofield*, 4 Fisher, 154.

There can be no question that there may be a claim for two inventions in the same patent, if they both relate to the same machine or structure, and an action can be sustained for the infringement of either one or the other of these separate inventions, when claimed as separate and distinct in their character. *Lee v. Blandy*, 2 Fisher, 92; *Electric Telegraph Company v. Brett & Little*, 4 Law and Equity Reports, 358; Norman on Patents, 108, 109.

So the patent of Cook covering, as we have said, three separate and distinct inventions, and these inventions all being cognate and relating to the same subject matter, the plaintiffs may well prosecute for the infringement of any one of them. They have elected to do this in the case on trial, and they only demand damages for the infringement of the last claim set out in the schedule.

This claim, as already stated, is for a slot cut through one bar of the buckle or clasp for uniting cotton-ties, which enables the end of the tie or hoop to be slipped sidewise underneath the bar in the clasp or buckle, so as to effect the fastening with greater rapidity than by passing the end of the tie through endwise.

You are authorized to consider this case precisely as if Cook's patent covered only the last claim just set out; in other words, as if the patent secured the right to a slot cut through the clasp or buckle for uniting cotton-ties, so as to enable the end of the tie to be slipped sidewise under the bar of the buckle instead of endwise, and nothing else.

The production of the patent is *prima facie* evidence that the several grants of right contained in it are valid, and that the

several things, matters, and devices covered by it were new; that they were useful; that they were the invention of Cook. *Potter v. Holland*, 1 Fisher, 387.

It was competent for defendant, by giving thirty days' notice thereof to plaintiffs, to show, if he could, either, first, that the invention had been patented or described in some printed publication prior to Cook's supposed invention; or, second, that Cook was not the original inventor or discoverer of any material or substantial part of the thing patented; or, third, that it had been in public use or on sale in this country for more than two years before his application for a patent, or had been abandoned to the public. Sec. 61, act of Congress, approved July 8, 1870. This notice was not given, and these matters are not at issue; nor is there any denial that the device described in Cook's third or last claim is useful. You may then take it as established that this invention was, when patented, new; that it is useful; that Cook was the first inventor; and that, by assignment, plaintiffs are invested with all the rights of Cook in the patent. In other words, there has been no attempt to overthrow the *prima facie* case made by the production of the patent and its assignment.

But the question is made, was the device or invention described in Cook's third claim a patentable device or invention? The patent itself is *prima facie* evidence that it was. A patent can not be granted for a principle or an idea, or for any abstraction whatever; for instance, for the naked idea of a slit, slot, or aperture, disconnected from any application. But when the idea is applied to a material thing, so as to produce a new and useful effect or result, it ceases to be abstract, and becomes a proper subject to be covered by a patent. For instance, the idea of bending the end of a cotton-tie in a particular manner, would not be the subject of a patent; but when the idea is applied to the fastening of the tie to a clasp or buckle, so as to produce a new and useful result, then it becomes patentable.

So the abstract idea of a slot in a buckle is not of itself patentable; but when the idea is applied to a buckle, so that the result is new and useful, or so that an end is accomplished in a novel and useful manner, then the idea ceases to be abstract, and becomes the proper subject of a patent.

I, therefore, instruct you, that the open slot cut through one bar

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of a buckle in a cotton-tie, for the purpose set forth in Cook's third claim, is patentable; and, considered as separate and distinct from the other inventions covered by his patent, is a valid and patentable subject matter.

The court having thus disposed of the foregoing questions, will be your duty to decide whether the defendant has, as alleged by the plaintiffs, infringed their rights under the Cook patent. In order that you may reach an intelligent conclusion on the subject it is proper for the court to construe for you the third claim of Cook's patent, which is the only one alleged to be infringed by the defendant.

What is secured by this claim is the right to use an open cut buckle, which, without the cut, would be a closed buckle, so that to allow the end of the tie or hoop to be slipped sidewise underneath the bar through which the slot is cut, and thereby to effect the fastening with greater ease, and obviate the necessity of the difficult process of pushing the end of the tie endwise under the bar.

The specification and model are both in evidence, and you will have no difficulty in comprehending the idea of the inventor.

The patent covers all the modes and processes by which the principle of the invention is made operative in practice. *Tilghman v. Werk*, 2 Fisher, 229.

The man who has made the first invention has it for all the uses to which it is applicable. *Woodman v. Stimpson*, 98 Fisher.

A man can not even have two patents for the same process, for different purposes. When the means, devices, and organization are patented, the patentee is entitled to the exclusive use of this mechanical organization, device, or means for all the uses and purposes to which it can be applied—to every function, power, and capacity of his patented machine or device—without regard to the purposes to which he supposed originally it was most applicable. *Conover v. Roach*, 4 Fisher, 12.

The plaintiffs claim the open slot in a buckle to facilitate the passage of the end of a cotton-tie under the bar of the buckle sidewise and not endwise. Now, he is entitled to the benefit of that device when that purpose is accomplished by the means provided, and substantially in the manner provided.

If a party uses the open slot described in the third claim of this patent for passing the end of a cotton-tie sidewise under the slotted bar, it makes no difference whether such end is in the form of a loop or not, if the result attained is that the end of a tie has been "slipped sidewise through the slot underneath the bar, so as to effect the fastening with greater rapidity than by passing the end of the tie through endwise." Then the result is the result claimed by the patent, and it is accomplished substantially by the means set forth in the patent.

I say to you, therefore, that the third claim of the Cook patent covers the open slot in a cotton-tie buckle used for the purpose of passing the end of the tie sidewise through the slot under the bar, no matter by what other manipulation of the tie that result is attained; and I say to you, further, that it is not necessarily connected with the remainder of the Cook tie, and it covers the open slot used on other forms of buckle for substantially the same purpose, and in substantially the same way.

With these instructions in mind, you will decide the issue whether or not defendant has infringed upon the third claim of plaintiff's patent. The defendant contends that the tie sold by him, and which has been exhibited to you, is not an infringement upon the patent of the plaintiffs; that the principle of the two is not identical, but different. Whether this is the fact, you must determine from the weight of the evidence, under the instructions of the court.

If the device on the buckle sold by defendant for the purpose of passing the end of the tie under the slotted bar is substantially the same as the device claimed by plaintiffs' patent, then defendant has infringed upon plaintiffs' invention. The contrivances for the purpose in view must be substantially identical, and that is substantial identity which comprehends the application of the principle of the invention. If a party adopts a different mode of carrying the same principle into effect, and the principle admits of different forms, there is an identity of principle, though not of mode. *Page v. Ferry*, 1 Fisher, 229. And it makes no matter what additions to or modifications of a patentee's invention a defendant may have made: if he has taken what belongs to the patentee he has infringed, although with his improvement the orig-

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inal machine or device may be much more useful. *Howe v. Morton*, 1 Fisher, 587.

✓ All modes, however changed in form, but which act on the same principle and effect the same end, are within the patent; otherwise a patent might be avoided by any one who possessed ordinary mechanical skill. /

If you shall reach the conclusion that defendant has not infringed the patent of plaintiffs, that will conclude your duties on this branch of the case; but if you find he has infringed, it will then be your duty to pass upon the question of damages. The amount of damages is a question solely for your consideration; but it is the duty of the court to instruct you as to the rules of law by which the damages are to be estimated.

✓ This rule is not what defendant made by the infringement, or what he might have made, but it is the loss sustained by plaintiffs by reason of the infringement. The amount of this loss you must gather from the evidence. It is proper to inquire how many customers were diverted from plaintiffs by the wrongful conduct of defendant, and what loss plaintiffs have sustained in profits by reason of such diversions. If plaintiffs were ready to supply the market with their patented goods, and their business was hindered or interfered with by the competition of defendant, plaintiffs' damages will be the amount of profit which they have lost by reason of such interference. /

✓ It now remains to consider the other branch of the case—to wit, the defendant's claim in reconvention.

This claim of defendant has already been stated in giving the substance of his answer, and you are to consider and determine from the proofs whether plaintiffs have infringed upon the patent of defendant. / To assist you in this inquiry, it is the duty of the court to construe the letters patent under which defendant claims.

The third claim in defendant's reissued patent covers a link made with an open slot, of such a construction that the tie can be introduced in the manner shown in figures 6, 7, 13, and 14, which permits the link to be turned after the hoop has been inserted. This patent of defendant does not cover the open slot, as claimed by plaintiffs.

It is in proof, and there seems to be no controversy upon the

point, that the plaintiff, J. J. McComb, has sold what is known to be the arrow-tie, and it is the sale of this tie which the defendant claims to be an infringement upon his patent.

I instruct you, if the arrow-tie is so constructed that it can not be turned after the tie is passed through the slot in substantially the same way as described in Brodie's patent, it will not infringe that patent. But if it can be so turned, and is intended to be used in that way, or is so used by plaintiffs, then it is an infringement.

The principles of law laid down in reference to the plaintiffs' branch of the case apply to and will govern the branch now under consideration. If, however, you should be of the opinion that plaintiffs have infringed on defendant's patent, you will not be authorized to return any damages for him if he failed to show that he has so complied with the law as to entitle him to recover damages.

The act of Congress, approved July 8, 1870, section 38 (16 Stat. at Large), requires that every patented article sold shall be stamped with the word "patented," and the day and year the patent was granted; and, in any suits for infringement by the party failing so to mark, no damages shall be recovered by plaintiff, except on proof that the defendant was duly notified of such infringement, and continued, after such notice, to make, use, and vend the article patented. So that, if defendant has neglected to prove that his patented article was stamped, or that he gave the notice required by the statute, you can not award him more than nominal damages.

My recollection is that no such proof was offered; and, if this be so, you can return nominal damages only for defendant.

This comprises all that I deem necessary to say, except to add that your duty is to approach the consideration of the case with minds unbiased and uninfluenced, save by the testimony, the arguments of counsel, and the charge of the court.

It is your duty to dismiss from your minds all preconceived opinions of the merits of this controversy, if any such you have, and decide the case as it has been submitted to you. Your function is to pass upon the issues of fact, applying the law as given you in charge by the court. Such is the rule for the administration of justice, and such is the obligation of your oath.

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THE JURY found a verdict for plaintiffs, and rejected the claim of defendant in reconvention.

Upon the verdict, the court rendered judgment for plaintiffs, with costs.

FREDERIC COOK AND JAMES J. McCOMB

vs.

FREDERIC B. ERNEST ET AL. IN EQUITY.

It is competent for a party to sue for an infringement of any one of the separate and distinct inventions that may be covered by his patent.

The fact that other devices, superior to that covered by complainants' patent, taken as a whole, have been invented, and have driven the latter out of use, does not prove or tend to prove that such invention lacks utility, as the law uses that word.

The presumption, created by the issue of letters patent, that the patentee was the first and original inventor, is greatly strengthened by the extension of the patent, especially when the extension is resisted on the ground of want of novelty.

While the decision of the Commissioner of Patents is not entitled, upon this question to the force of *res adjudicata*, yet it is a determination entitled to the highest respect of the courts, and should not be reversed except upon the most satisfactory proof.

The open slot in the metallic cotton-bale tie patented to Frederic Cook, March 2, 1858, was not anticipated by an elongated open ring, such as is used for fastening parts of chains together. No use to which the latter could naturally be applied would suggest the open slot in a rectangular flat buckle for the introduction of a flat band sidewise.

Said invention was not anticipated by the English patent to George Hall, No. 2561, A. D. 1801.

The buckle described in the English provisional specification of Pilliner, A. D. 1856, was not described in such terms that the public could construct and put it to the use designed by Cook without further invention.

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The fact that defendant has taken out patents for other improvements relating to the same subject is no reason why he should not be enjoined from infringing upon the improvement covered by complainants patent.

The writ of injunction issues on the principle of a clear and certain right to the enjoyment of the subject in question, and an injurious interruption of that right, which, on just and equitable grounds, ought to be prevented.

Where complainants produced their patent; proved an uninterrupted use of the invention, without infringement, for eleven years; had established their patent by an action at law, in which every defense known to the law might have been set up; and had obtained an extension of the patent in the face of vigilant and interested opposition, a preliminary injunction was granted.

Property in a patent is just as much under the protection of the law as property in land.

When the owner has made good his claim to his patent, and shown an infringement of it, it is the duty of the courts to give him the same relief meted out to suitors in other cases.

(Before WOODS, J., District of Louisiana, March, 1872.)

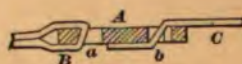
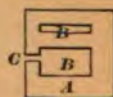
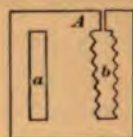
MOTION for provisional injunction.

Suit brought upon letters patent for "improvement in metallic ties for cotton-bales," granted Frederic Cook, March 2, 1858, and extended for seven years from March 2, 1872, an equitable interest in which was conveyed to James Jennings McComb.

There were six suits: one against Frederic B. Ernest and Frederic Ernest, agents for the sale of the "Gooch" tie; one against John S. Wallis, manufacturer of the "Wallis" tie; one against William Chambers, manufacturer of the "Alligator" tie; one against George Norton, M. O. H. Norton, and Arthur L. Stuart, agents for the sale of the "Dunn" tie; one against Andrew Stewart, William Stewart, Hugh Stewart, and A. D. Gwynne, agents for the sale of the "Beard" tie; and one against George Brodie, manufacturer of the "Brodie" tie, and defendant in the suit of *McComb v. Brodie*, ante, 384. The nature of the invention and the claims, together with engravings of the Cook and Brodie ties, will be found in the report of the latter case.

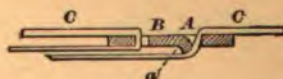
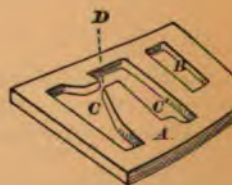
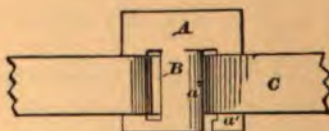
Cook v. Ernest.

The accompanying engravings will illustrate the various ties sold by the defendants.



Alligator.

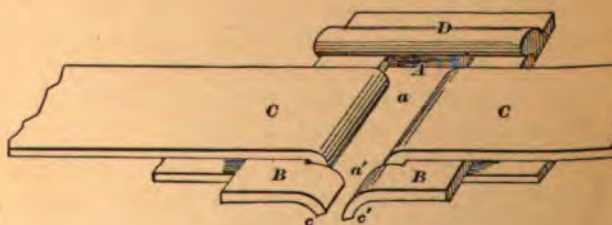
Wallis.



Dunn.



Gooch.



Beard.

In the "Alligator," "Wallis," and "Dunn" ties, one end of the band was passed through the closed slot, and turned under the other end was first bent and then passed through the open slot. In the "Gooch" tie, the end which formed the fastening was bent and passed through the opening, D, in the slot, C', around the bar, A, and back and over the outer band. In the "Beard" tie, both ends were bent and passed through the opening into the slot.

The accompanying engraving represents No. 16 of the drawings of Hall's English buckle, patented in 1801; and which, it was insisted by the defendants, anticipated the invention set forth in the third claim of the Cook patent.



Randolph, Singleton & Browne, J. A. Campbell, and S. S. Fisher, for complainants.

Clark & Bayne, and Lea, Finney & Miller, for defendants.

Woods, J.

The bill states, in substance, that complainant, Cook, prior to March 2, 1858, was the original and first inventor of a certain new and useful improvement in metallic ties for cotton-bales, and which had not been known or used before his invention, nor been in public use before his application for a patent therefor.

That on the day and year aforesaid, letters patent were issued to him for said invention by the proper department of the government of the United States, granting to him and his assigns, etc., the exclusive right of making, using, and vending to others his said invention.

That on January 22, 1872, before the expiration of the original term of said letters patent, the said Cook contracted and agreed, in writing, to convey to his co-complainant, McComb, for a valuable consideration, all his right and title in said letters patent for the extended term thereof, if the same should be extended by the Commissioner of Patents, which agreement was duly recorded in the Patent Office.

That on January 31, 1872, said Cook filed in the Patent Office a disclaimer to so much of said invention set forth in the letters patent as were embraced in the first claim of invention therein, which disclaimer was recorded according to law.

That on February 17, 1872, the Commissioner of Patents renewed and extended said letters patent for the term of seven years from and after the expiration of the original term of fourteen years—to wit, from March 2, 1872.

That during the original term of said patent a suit was brought,

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on the law side of this court, by Mary Frances McComb and James Jennings McComb, the then owners of said patent, against one George Brodie, for an infringement thereof, which was tried before a jury at the November term, 1871, of this court—to wit, in March, 1872; that much testimony was introduced on both sides of said cause; the defendant denied the patentability of said invention described in the third claim, and the scope thereof, and denied infringement, and set up a claim in reconvention against the plaintiffs for the infringement of a patent issued to him on March 22, 1859, for an improved metallic band for baling cotton, and claimed that the buckle which he had made and sold was covered by his own letters patent; that the jury found the issues joined for the plaintiffs, and rejected the claim in reconvention of the defendant.

That since the date of said extension the legal title to said letters patent has been vested in Cook, subject to the equitable rights of McComb, under the contract aforesaid; that the improvement specified in the third claim is of great value; that said claim has been applied by complainants to use, and introduced into the market, to the great advantage of the public.

That defendants, without consent of complainants, and in violation of their rights in said letters patent, have made, used, and vended to others to be used, and are now making, using, and vending to others, and are preparing to continue to do so, metallic ties for baling cotton, containing the invention set forth in said letters patent and claimed in the third claim of invention—that is to say, the slot described in the specification of said letters patent, cut through one bar of the clasp, which enables the end of the tie or hoop to be slipped sidewise underneath the bar in the clasp, so as to effect the fastening with greater rapidity than by passing the end of the tie through endwise, and that defendants have a large quantity of said ties, so constructed, in their possession, which they are preparing to sell, without consent of complainants, and in violation of their rights. That defendants have been requested to desist from making and vending said ties, and have been notified of complainants' exclusive rights as aforesaid; but, disregarding complainants' rights, have combined with others to make, use, and vend said ties.

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The bill prays for an account of profits and damages, and for injunctions, both provisional and perpetual, against defendants.

The case is now submitted to the court on the motion of complainants for a provisional injunction, after reasonable notice to defendants, who appear by counsel, and resist the motion.

To sustain their motion, the complainants introduce the letters patent to Cook; the extension by the Commissioner of Patents; the contract of Cook with McComb, assigning to him the right of Cook in the extension; a certified copy of the examiner's report on the application of the extension of the Cook patent, and of the reasons of opposition to the extension filed by William Chambers; the testimony on said application; the affidavits of M. B. Muncy, Frederic Cook, F. B. Parkinson, James J. McComb, and William Clough; and the record in the case of *Mary Frances McComb and James J. McComb v. George Brodie* (ante, 384), on the law side of this court.

From this evidence, it appears that McComb has the equitable title and Cook the legal title to the extension of the letters patent originally issued to Cook.

The schedule accompanying Cook's original patent discloses that the patent was intended to cover three separate and distinct inventions:

1. A friction buckle or clasp, represented by figures 1, 2, and 3, showing the different views of it, for attaching the ends of iron ties or hoops for fastening cotton-bales and other packages.

2. The manner of looping the ends of the iron ties or hoops into a buckle, by the form of which they are prevented from slipping, by friction, when the strain of the expansion of the bale comes on the ties.

3. The slot cut through one bar of the clasp or buckle, as shown in the diagram, which enables the end of the tie or hoop to be slipped sidewise underneath the bar in the clasp or buckle, so as to effect the fastening with greater rapidity than by passing the end of the tie through endwise.

As already said, the bill complains of the infringement of the third claim only. The device covered by this claim is so clearly stated as to need no explanation.

The affidavit of Cook shows that in 1857 he commenced the

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manufacture of ties according to his invention, which was patented to him in March, 1858, and that up to 1861, when he sold his patent to one A. C. Sturdevant, he had made and sold a number sufficient to bale twenty thousand bales of cotton; and he exhibits with his affidavit one of the ties made, according to his invention, in 1857.

The affidavit of McComb shows that, since 1856, he has been engaged in the enterprise of introducing metallic ties for baling cotton; that in 1859 his attention was called to a device said to be the invention of one Taylor, which was simply a square buckle with an open side, through which the loop-end of the band could be passed edgewise; but, on inquiry at the Patent Office, he learned that the open buckle was the invention of Cook, who had taken out a patent for it March 2, 1858; that he afterward invented a modification of the form of the mortise in the buckle, now generally known as the "arrow tie," and in 1861, through an intermediate assignment, his wife, Mary Frances McComb, became the owner of the device patented by Cook; and, by uniting his own with Cook's invention, produced what is known as the "arrow tie."

That in 1861 he went to England and made arrangements for shipping large quantities of bands and ties as soon as the blockade, then existing, was raised, which did not occur until 1865, when he at once commenced shipping his ties to each of the southern ports, and has continued to do so until the present time, and is prepared to supply fully the demand for iron ties in this country.

That the first open infringements of the open-slot tie were in 1869, and they have increased, so that in 1870 one-third of the ties in competition with the arrow tie were open-sided, and in 1871 the entire importation was open-sided.

That he has frequently and constantly notified infringers that they would be prosecuted, and has only refrained from so doing by the fear of impairing his credit in England, where litigation in reference to patent rights is much dreaded. Nevertheless, he did bring the suit of *Mary Frances and James J. McComb v. George Brodie* (ante, 384), which resulted as stated in the bill of complaint.

The affidavit of Muncy shows that the defendants are selling,

in the city of New Orleans, ties with a buckle containing an open slot, one of which buckles is attached to the affidavit; and the affidavit of William Clough, an expert, is to the effect that the buckle sold by defendants employs the device described by Cook in the third claim of his letters patent.

The documents filed, showing the extension of Cook's letters patent, show that, in applying for said extension, he disclaimed the first claim of invention in his original patent, and took out his extension for only his second and third claims.

The certified records from the Patent Office also show that the extension of Cook's patent was opposed, among other grounds, because other parties, and not Cook, were the first to invent devices that rendered the use of iron bands practicable for baling cotton, and because Cook was not the first to use the slotted link for fastening metallic bands around cotton-bales.

The report of the examiner, in the application of Cook for an extension, states that, among the numerous American inventions of that class, none is found previous to that date (the date of Cook's patent) with an element of construction answering to his open slot. Attention was, however, called by him to the English patent No. 2561, A. D. 1801, granted to George Hall, for elastic fastenings for shoes, and also bands, garters, and ornaments for the knees, etc., showing buckles provided with open slots in numerous modifications of form and construction.

On consideration of this report, the Commissioner of Patents, as shown in the proof, extended the patent of Cook for the term of seven years, as alleged in the bill.

This is the case as presented by the complainants, and it appears to me that it establishes the right of the complainants to the writ of injunction, unless the case is overthrown by the showing made by defendants.

To resist the motion for injunction, defendants have offered a large number of affidavits. Many of these affidavits are to the effect that affiants have for a long time been engaged in the sale of metallic cotton-ties, and have never sold or seen in use a tie constructed according to the original patent of Cook.

The affidavit of John S. Wallis, among other things, states that long before Cook's invention the use of open buckles, for the fastening of belts, bands, and chains, was common and public;

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and he illustrates his affidavit by attaching thereto what is particularly known as an open link, commonly used in trace-chains.

Samuel H. Boyd testifies to the same effect; and Francis Fassman testifies that in April, 1871, he saw the open link, the one described by Wallis, actually used to fasten the belt around a bale of cotton.

Caleb S. Hunt also testifies that he is familiar with the open links or buckles having slots for introducing rapidly an end into the mortise, and has known of such use for forty years.

The English patent to George Hall, referred to in the report of the examiner on the application of Cook for an extension, is introduced to show want of novelty in Cook's invention.

Numerous affidavits are introduced showing models and drawings of Frederick James Pilliner's provisional specification, 1584 of English patents of 1856, showing a device which claimed to be substantially the device of Cook's third claim. The device of Pilliner was intended for fastening military belts.

From this statement of the contents of the affidavits presented by defendants, it will be seen that Cook's invention is attacked on two grounds: want of utility and want of novelty.

It is obvious to notice that all the affidavits intended to show want of utility referred to the three claims of invention, covered by Cook's patent, taken together. The affiants say that they have never seen the tie, as described in these three claims, used. As already stated, Cook's patent covers three separate and distinct inventions. It is competent for the complainants to sue for a infringement of any one of them, and in this case they complain only of the infringement of the third claim under the patent.

These affidavits do not show or propose to show that this device is not a useful contrivance. The testimony clearly shows that the open slot for passing the end of the iron tie through the side of the buckle sidewise is used on nearly all the ties now in use, which is conclusive proof of the utility of that part of Cook's claim.

But, taking the three devices of Cook's patent as one combined contrivance, there can be no doubt of its utility. The testimony shows that ties made according to all three claims of his patent, sufficient to bale twenty thousand bales of cotton, have been made and sold by Cook.

All the law requires as to utility is that the invention shall not be frivolous or dangerous. It does not require any degree of utility. It does not exact that the subject of the patent shall be better than anything invented before or that shall come after. If the invention is useful at all, that suffices. *Hoffheins v. Brandt*, 3 Fisher, 218.

To warrant a patent, the invention must be useful—that is, capable of some beneficial use, in contradistinction to what is pernicious, frivolous, or worthless. “Useful,” in the patent law, is in contradistinction to mischievous; the invention should be of some benefit. *Cox v. Griggs*, 2 Fisher, 174.

The degree of utility is not pertinent to the question of the validity of a patent. *Tilghman v. Werk*, 2 Fisher, 229.

The word “useful,” in section 6 of the act of 1836, and in section 1 of the act of 1793, does not prescribe general utility as the test of the sufficiency of an invention to support a patent. It is used merely in contradistinction to what is frivolous or mischievous to the public; it is sufficient if the invention have any utility. *Wintermute v. Redington*, 1 Fisher, 239.

If the defendant has used the patented improvement, or something substantially like it, he is estopped from denying its utility. *Vance v. Campbell*, 1 Fisher, 183.

Tested by these rules, the defense of want of utility is clearly untenable. The entire invention covered by Cook's patent was intended for a useful purpose. It can be and has been used for that purpose. It is not frivolous or mischievous. The fact that other devices superior to Cook's original device, taken as a whole, have been invented and have driven it out of use, does not prove, nor tend to prove, that his invention lacks utility, as the law uses that word.

The next defense presented by the affidavits is the want of novelty. This is confined to the third claim of invention—namely, the open slot for passing the end of the iron tie sidewise under the bar of the buckle.

The issue of letters patent is *prima-facie* evidence that the patentee was the first and original inventor. This *prima-facie* case is greatly strengthened by the extension of the letters patent, especially when, as shown in this case, the extension is resisted on the ground of want of novelty.

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While the decision of the Commissioner of Patents is titled upon this question to the force of *res adjudicata*, a determination entitled to the highest respect of the court should not be reversed except upon the most satisfactory proof.

The original presumptions of novelty and utility arising from the grant of a patent are strengthened by its extension. *Whisen v. Mowry*, 3 Fisher, 157.

Upon an application for an extension of a patent, the court requires a very rigid scrutiny into the original claim of the patent as to the novelty and utility of the invention; and the extension strengthens the novelty and utility of the patent. *Whisen*, 3 Fisher, 343.

To overthrow the case made by complainants, as to the novelty of the invention described in Cook's third claim, we have the affidavits of Wallis, Hunt, and Fassman, showing the prior and anterior use of open links, like those attached to their affidavits for connecting chains and bands.

Upon the issue of novelty, testimony will not be received which shows what might have been done with previous machinery. *Howe v. Underwood*, 1 Fisher, 160.

It is not enough to defeat the novelty of an invention, that contrivances are produced, which might, with a little change, have been made into the patented contrivance, though not so improved by the maker. *Livingston v. Jones*, 1 Fisher, 521.

When a useful machine is sought to be invalidated by a prior one, made years ago, the testimony should be examined with care and caution to ascertain whether the prior machine was the same and substantially the same. *Hayden v. Suffolk Manufacturing Co.*, 4 Fisher, 87.

Changes in the construction and operation of an old machine, so as to adapt it to a new and valuable use, which the old machine had not, are patentable, and may consist either in a material modification of old devices, or in a new and useful combination of the several parts of the old machine. *Seymour v. Osborn*, Wall. 516.

The link presented by the affidavits of Wallis and others is an elongated open ring. It is similar to a device long used for attaching the clevis of a plow to the double-tree, and it is like the open links used by farmers for lengthening trace ropes.

chains, by fastening two parts of chains together. The pretense that the prior use of this open link shows want of novelty, in Cook's third claim, is utterly untenable. It is a device designed to accomplish no such purpose as Cook's device, and is not adapted to that end. As used for uniting chains, a closed link is inserted in the slot of the open link. It was not designed to be used for the insertion of a hook or loop; for that could be done in a closed as well as open link, and with more facility in the former by putting the end of the hook or loop into the link than by passing it sidewise through the opening.

It can, with more plausibility, be claimed that all closed buckles for fastening the ends of the metallic cotton-ties lack novelty, because iron links have been in use ever since the invention of chains. The fact that the link shown by Wallis' affidavit is in the form of a ring, shows that it was not designed for the introduction of flat bands, like cotton-ties, and no use to which it could naturally be applied would suggest the open slot in a rectangular flat buckle for the introduction of a flat band sidewise.

The next item of evidence to establish the want of novelty is the English patent to George Hall for elastic fastenings for shoes, bands, garters, etc., No. 2561, A. D. 1801. This patent was used before the Commissioner of Patents to show want of novelty in Cook's third claim, in order to defeat the extension of his patent; but the effort was not successful. An examination of a model of Hall's buckle shows that it was not intended as a fastening for metallic ties or bands, and that it is so constructed that a metallic band can not be introduced sidewise through the open slot into the buckle, the stationary tongues in the buckle preventing the passage of any metallic bar or band. This, therefore, can not be claimed as an invention embodying the same principle as Cook's.

The provisional specification of Frederick James Pilliner, No. 1584 of English patents of 1856, shows a buckle which, as represented in the drawings of the experts who have attempted to give form to the device described in the specification, approaches much nearer the invention of Cook than the open link described by Wallis, or the device patented by Hall. It is a contrivance for fastening military waist-belts. It is not shown that any patent was issued for that device, and the proof does not show that it

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was described in any printed publication prior to Cook's invention, which the evidence shows was as early as 1857.

But I am by no means satisfied that the device of Pal is identical with that of Cook. The provisional specification does not describe the device covered by Cook's third claim of invention. Remotely suggestive of it, it may be; but the illustration is not approved by experts do not agree, nor is the buckle described in such detail that the public could construct and put it to the use designed by Cook without further invention. Opinion of McKennan in *McMillin v. Barclay* (ante, 189).

We are, therefore, brought to the conclusion that defendants have not only failed to show the want either of utility or of novelty in the Cook invention, but that they have not overcome the objections made by the complainants as to the validity of the patent.

The question of infringement of the third claim of the patent, by a device the same in principle as that of defendant, has been recently tried by a jury on the law side of this court, resulting in a verdict for the plaintiffs. An inspection of the device of the defendants shows that it is substantially identical with that of Cook, embodying the principle of his invention.

The defendants claim that to entitle complainants to an injunction they should have an undisturbed possession, and that an injunction will not be granted if it disturbs the existing order of things. If by undisturbed possession it is meant that the patent has never been infringed, then an injunction could not be granted in any case; for, when there is no infringement, there is no necessity for, no propriety in the allowance of an injunction.

The claim of Cook under his patent has never been denied in the courts. He and those claiming under him have had the reputed possession of their property in their patent. They have continually asserted their rights under it, and have warned and threatened infringers. Notwithstanding their warning and the latter have, as the evidence shows, continued to invade the rights of the patentee and his assignees. It is now claimed that an injunction should not issue, because it would disturb the existing order of things - that is, it would put a stop to infringing and give a protection to the property of complainants, which the defendants will not voluntarily accord. In other words, that is, that because the defendants have been invading the

claimants for one, two, or three years, they should not be enjoined, lest the existing order of things should be disturbed.

The very purpose of the bill of complaint is to disturb the existing order and to induce a new order, by which the complainants may be protected in their property and rights. If the existing order of things is a good reason for refusing a preliminary injunction, it would be a still stronger reason for refusing a perpetual injunction on the final hearing; for the order of things would then have existed for a greater period of time.

The rule laid down by Mr. Justice Woodbury in *Perry v. Parker*, 1 Woodbury and Minot, 281, is, that if respondent denies the complainant's title, and casts a shadow over it by evidence, the grant of the injunction must be delayed till the validity of the title can be tried under a proper issue in the case, unless the complainant can strengthen his claim beyond the mere patent by showing former recoveries in favor of it, quiet possession of it for some time, or frequent sales and use of it under him. In this case, the complainants have strengthened their claim by showing that their original patent has been extended in spite of strong opposition; that they have recovered upon their patent at law, when all defenses to its validity might have been made if defendants had so elected; and quiet possession and frequent sales and use, and a general acquiescence in their rights from 1858 to 1869, when open infringements first appeared.

Several patents issued to the different defendants for various improvements in cotton-ties have been introduced in evidence, and the rule of law is invoked that an injunction will not issue where the defendant holds under a patent.

Admitting this to be the correct rule, it has no application to this and similar cases; for none of the patents issued to the defendants cover the third claim of the Cook patent, for the infringement of which this suit is brought. The fact that these defendants have taken out patents for other improvements in cotton-ties, is no reason why they should not be enjoined from infringing upon the improvement covered by complainants' patent. As well might a defendant to a bill for the infringement of a sewing-machine patent set up against a prayer for injunction the fact that he held a patent for a reaping-machine. / The writ of injunction issues on the principle of a clear and certain right to the enjoy-

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ment of the subject in question, and an injurious interruption of that right, which, on just and equitable grounds, ought to be prevented. Hilliard on Injunctions, 818. /

In this case the complainants have clearly established their rights under their patent; first, by the production of the patent itself; second, by the use of the patented article for three years immediately after the date of the patent, followed by the uninterrupted use of the assignee, without infringement, for eight years more; then, by an action at law, in which the patent was sustained, in which every defense known to the law might have been set up; and, finally, on the expiration of the original term of fourteen years, by proof of the extension of the patent in the face of vigilant and interested opposition.

The defendants have been warned to desist from their invasion of the plaintiffs' rights. They disregard the warning, and continue to use complainants' property without their leave and without any compensation to them. If the rights of property so invaded were rights to land or other tangible estate, no court would hesitate for a moment to restrain the wrong-doer by injunction. The property in a patent is just as much under the protection of the law as property in land. The owner has the same right to invoke the protection of the courts, and when he has made good his claim to his patent, and shown an infringement of it, it is the duty of the courts to give him the same relief meted out to suitors in other cases.

The defendants have had ample notice of this motion; they have been fully heard upon it. I am convinced that the complainants have shown themselves entitled to the relief they seek, and that defendants have shown no good reason to the contrary.

Injunctions will issue against all of the defendants.

GLOVER SANFORD ET AL.

vs.

MATTHEW MESSER ET AL.

Any assignment which does not convey to the assignee the entire and unqualified monopoly which the patentee holds in the territory specified or an undivided interest in the entire monopoly, is a mere license.

The conveyance of an exclusive right to use and vend, the right to make being retained by the grantors, construed to be a mere license.

It was not the intention of the legislature to permit several monopolies to be made out of one, and divided among different persons in the same limits.

A contract for the purchase of a *portion* of a patent right may be good as between the parties as a license, and enforced as such in the courts.

But the legal right in the monopoly remains in the patentee, and he alone can maintain an action against a third party who commits an infringement upon it.

S. & W. conveyed to S. & B. all their right, title, and interest in and to an invention, within the State of Massachusetts, except the right to build the patented machines. In a suit against one who had infringed by making the patented invention: *Held*, that the suit was properly brought in the name of S. & W., without joining S. & B.

An improvement, by which ordinary sewing-machines could be adapted to the sewing of sweat-linings in hats, and of which such machines were an essential element, is not anticipated by complicated and expensive sewing-machines specially adapted to the sewing of sweat-linings, but not capable of use as ordinary sewing-machines.

Letters patent for "improvement in sewing-machines," granted to F. S. Sanford and D. Wheeler, April 10, 1866, are valid.

The novelty of the improvement in sewing-machines invented by Sanford & Wheeler sustained.

(Before SHEPLEY, J., District of Massachusetts, April, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought on letters patent for "improvement in sewing-machines," granted to Glover Sanford & Sons and Dwight

Sanford v. Messer.

Wheeler, as assignees of Frederick S. Sanford and David
Wheeler, April 10, 1866.

The claim of the patent was as follows :

"The work-plate, D, guides, E and F, constructed and arranged
stantially in the manner described, in combination with a stitching
ratus, for the purpose specified."

C. O. Morse and *J. B. Robb*, for complainants.

W. W. Swan and *C. Smith*, for defendants.

SHEPLEY, J.

This is a suit in equity founded on letters patent granted by
United States "for a new and useful improvement in sewing
machines, applicable to the ordinary sewing-machine, by which
it may be adapted to sew sweat-linings into hats without altera-
tion in the organizations of such machines."

An objection is made that the bill is defective for want of
parties. Defendants claim that since the date of the patent the
plaintiffs have transferred such an interest in the patent in and
the State of Massachusetts, that they have not the exclusive
ownership of the patent, and are not entitled to maintain the
bill of complaint. It appears that the patentees conveyed to
Stanwood and Bailey all their interest in the invention as secured
them by the letters patent for, to, and in the State of Mass-
achusetts, except the right to build said machines. Any assignment
which does not convey to the assignee the entire and unqualified
monopoly which the patentee holds in the territory specified, is
an undivided interest in the entire monopoly, is a mere license.
The monopoly granted to the patentees is for an entire thing,
is the exclusive right of making, using, and vending to others
to be used, the improvement described in the patent, and for which
the patent is granted. The instrument introduced in evidence by
the respondents, purports to convey to Stanwood and Bailey the
exclusive right in certain specified territory to use, and vend to
others to be used, the patented invention ; but it does not convey
but expressly reserves to the grantors, the right to make the
machines.

As well stated by Chief Justice Taney in *Gaylor et al.*

Wilder, 10 Howard, 494, it was obviously not the intention of the legislature to permit several monopolies to be made out of one, and divided among different persons in the same limits. Unquestionably a contract for a purchase of a portion of the patent right may be good as between the parties as a license, and enforced as such in the courts of justice; but the legal right in the monopoly remains in the patentee, and he alone can maintain an action against a third party who commits an infringement upon it. The bill of complaint in this case charges that defendants have made and do make the patented invention in violation of complainants' rights under the patent. The bill can unquestionably be maintained for that infringement of the exclusive privileges of the complainants, even if it were necessary to join other parties as complainants in a bill alleging infringement only by vending and using. /

The next inquiry is, whether Sanford & Wheeler were the original and first inventors of the improvement described in the specification and letters patent. To negative this, defendants rely upon letters patent of the United States, granted to Rudolph Eickemeyer, August 9, 1859, and February 20, 1866, and to E. M. Hendrickson, February 4, 1862. They have offered these letters patent in evidence, and have also filed as exhibits in the cause the several machines made by Eickemeyer and Hendrickson, embodying the principles of the invention described in the respective patents. These are machines not applicable to the ordinary sewing-machines in common use. They embody inventions consisting in radical changes in an entire reconstruction of the sewing-machines to adapt them to the new use. It does not appear to the court that there is any necessary conflict between these machines and the plaintiffs'. They do not contain the elements described in the plaintiffs' patent, namely, "a sewing-machine in which the needle-bar, the presser-foot, the looper, and the feed are all constructed and operated in the usual manner," nor "a work-plate arranged relatively to the feed, the needle, and the looper, like the ordinary work-plate." The object and purpose of the plaintiffs' invention was to substitute for the ordinary work-plate used in sewing-machines in common use, a work-plate of peculiar construction, with a guide for the sweat-lining, and also a guide for the hat, by means of which any common sewing-

Sanford v. Messer.

machine may be used for sewing sweat-linings into hats, or any change or alteration in the construction or mode of operation of any of its working parts; so that by changing the work of the sewing-machine could be used for sewing sweat-linings into hats, or performing the ordinary work of the common sewing-machine, as occasion might require. In this respect it differs substantially from the exhibits R, S, T, U, and V—ingeniously complicated and expensive sewing-machines, specially adapted for the sole purpose of this branch of manufacture, embodying the inventions of Eickemeyer and Underhill and Hendrich.

The defendants have infringed by the use of a work-plate substantially like the plaintiffs', differing from it only in the fact that one of the faces of the angular plate is wood instead of metal, and a guide for the sweat-lining, formed for that purpose on the face of the presser-foot, and a guide for the hat, a contour consisting of a peculiar form of the presser-foot, together with a projecting pin; these two guides, in combination with the work-plate and with the ordinary stitching apparatus, accomplish the same results as in the plaintiffs' machine, by means substantially the same, and in the same manner and in the same operation. The defendants' machine, exhibit D, embodies the plaintiffs' invention in a slightly altered form. The organization and operation of the plaintiffs' and defendants' machines are the same in substance, the difference between them consisting only in changes of form, leaving all the elements of the plaintiffs' invention intact in the defendants' machine.

DECREE for an injunction and an account, as prayed for in the bill,

JAMES D. SARVEN

vs.

ELIHU HALL & Co. IN EQUITY.

A reissued patent can not be sustained by extrinsic proof that the patentee was the inventor of all that is claimed in it, if what is so claimed was not shown or suggested in the original specification, drawings, or model.

Defects or insufficiencies in the description of anything which is found in any form in the original specification, drawings, or model, may be supplied in the reissue.

The specification of the original letters patent for an "improved carriage-wheel," granted to J. D. Sarven, June 9, 1857, discloses two devices—one consisting of spokes, whereof a part are tenoned into a wooden hub, and a part are in wedge form, not thus tenoned: the other consisting of flanged collars applied to the hub and the spokes therein, whether the spokes are constructed in the manner last named, or in any other manner, the specification pointing out the application of flanged collars to a wheel containing the ordinary number of spokes, in which it is probable, at least, that the extra or increased number of spokes not tenoned into the hub are omitted.

The reissued letters patent granted to said Sarven, September 6, 1870, on the surrender of said original patent of 1857, in declaring that the invention embraces the combination of the flanged collars with a wooden hub, into which the spokes are tenoned, without including the wedge-form spokes, or the solid bearing of the spokes upon each other exterior to the hub, do not embrace a device not found in the record of the original patent.

The first claim of said reissued patent, namely, "A carriage-wheel constructed with the spokes combined with a wooden hub by tenons entering mortises in said hub, and with each other, in such manner that a solid belt is formed around the said hub, substantially as before set forth," is limited to a solid belt formed by alternating tenoned spokes with wedge-formed spokes not tenoned, and is not infringed by a wheel in which all the spokes are tenoned into the hub.

A mere aggregation of parts, whereof the patentee has not the exclusive right to either, and in which the parts have no new operation, and

Sarven v. Hall.

produce no result which is due to the combination itself, is not patentable.

If the superiority of a wheel arose from the fact that two devices were combined on it, each of which was intrinsically better than others, and yet each operating independently of the other, the combination would be but the exercise of judgment in the choice of parts, and not invention.

The second claim of said reissued patent, namely, "A carriage-wheel constructed with a mortised wooden hub, with tenoned spokes, and with flanges which embrace the faces of the spokes in the immediate vicinity of the hub, and are connected together so as to form a metallic band, through which the spokes extend into the mortises in the wooden hub, substantially as before set forth," is valid.

Such claim is not a claim for a mere aggregation of devices.

Such claim is infringed by a wheel having tenoned spokes, and a wooden hub, and a mortised collar, cast in one piece, with divisions between the mortises for the several spokes, and with tapering sides formed to receive the spokes driven tightly therein, and give them endwise bearings.

As the mortised collar performs, both mechanically and practically, in the combination, the same office that is performed by the flanges of the plaintiff's wheel, it is none the less an equivalent therefor, in the combination, because it performs an additional office, not performed by such flanges.

The suit having been commenced prior to the passage of the act of July 8, 1870: *Held*, that the complainant was not entitled to damages as such, notwithstanding the fact that, after the passage of the act, he filed a supplemental bill, setting up a reissue of his patent, granted in September, 1870.

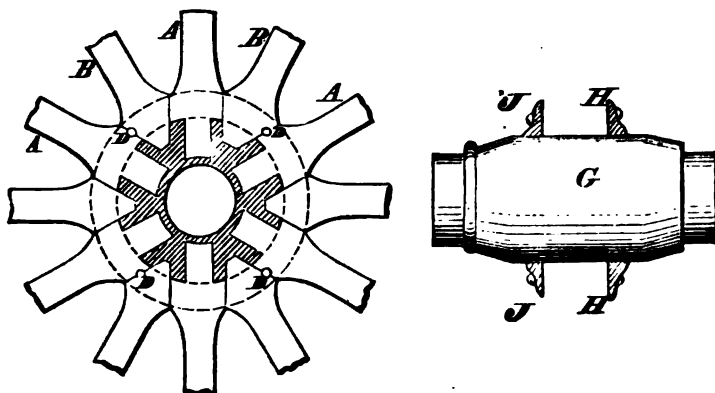
(Before WOODRUFF and SHIPMAN, JJ., District of Connecticut, April, 1872.)

FINAL hearing upon pleadings and proofs.

Suit brought on letters patent for an "improved carriage-wheel," granted to complainant June 9, 1857; reissued August 11, 1868; and again reissued September 6, 1870, and extended for seven years from June 9, 1871. The defendant's wheel was made under letters patent granted to Almon Warner, February 5, 1867, and reissued November 21, 1871.

The Sarven wheel is shown in the accompanying engraving. It consisted, in the form shown in the patent, of a mortised hub, with six tenoned spokes, A, placed in line. Between each pair of these spokes was inserted another spoke, B, having a wedge-

shaped foot, so that the lower end of the spokes were brought in contact just outside of the hub, thus forming a solid ring of wood. Metallic flanges, H and J, were then placed around the hub and on each side of this wooden ring, so as to bear against both the spokes and the hub, and were bolted together by rivets, D, passing through the flanges and lower part of the spokes.



Sarven.

The claims were as follows :

"A carriage-wheel constructed with the spokes combined with the wooden hub, by tenons entering mortises in said hub, and with each other, in such manner that a solid belt is formed around the said hub, substantially as before set forth.

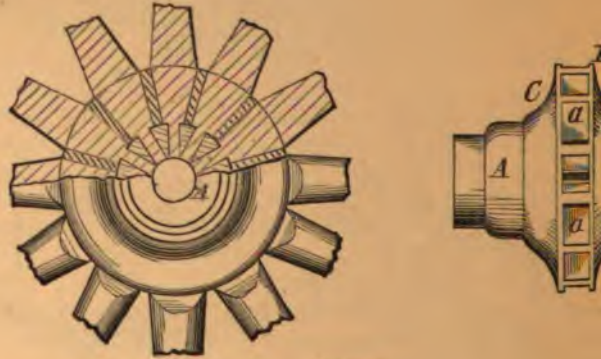
"Also, a carriage-wheel constructed with a mortised wooden hub, with tenoned spokes and with flanges, which embrace the faces of the spokes in the immediate vicinity of the hub, and are connected together so as to form a metallic band, through which the spokes extend into the mortises in the wooden hub, substantially as before set forth.

"Also, a carriage-wheel constructed with a mortised wooden hub, with tenoned spokes combined with each other, so that a solid belt is formed around the hub, and with metallic flanges, which embrace the faces of the spokes in the immediate vicinity of the hub, and are connected together so as to form a metallic band, through which the spokes extend into the mortises in the wooden hub, substantially as set forth."

The first engraving on the next page represents the Warner wheel, made by the defendants. A metallic mortised collar, *a*, was placed round the hub, A, which was also mortised, so that each spoke was driven through the metallic collar, and then by its

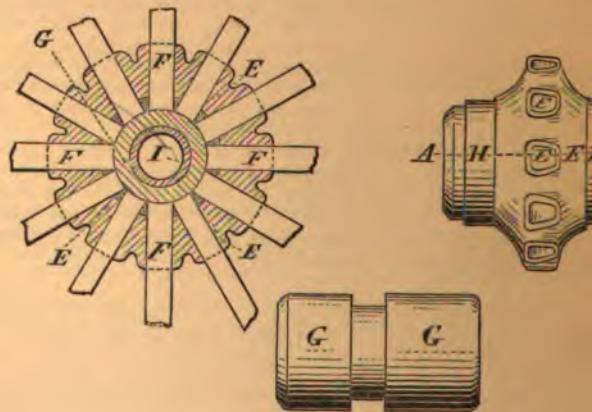
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tenon into the mortise in the wooden hub. The metal formed a bearing against the sides of the spoke and also the hub.



Warner.

The following engraving represents the Smith & Parfrey in which the hub, G, was not mortised, but channeled; spokes, F, were not provided with tenons, but after passing through a mortised metallic collar, E, substantially the same as that used by the defendants, passed into the channel in the hub without diminution.



Smith & Parfrey.

J. S. Beach, S. S. Fisher, and C. M. Keller, for complainant.

C. R. Ingersoll and B. F. Thurston, for defendants.

WOODRUFF, J.

The defense relied upon herein is of a mixed or twofold character—namely, a want of novelty in those features of the complainant's alleged invention which have been used by the defendants, and a denial that the defendants have infringed the patent granted to the complainant, in any feature which can be lawfully claimed to be secured to him. This mixed defense begets the claim that no right which was due to the complainant in virtue of the original invention described in his patent, specification, drawings, or model, has been violated by the defendants; and that, if the invention, as described and claimed in the reissued patent, purports to cover any broader ground, upon which the defendants can be said to have trespassed, then the reissue is, *pro tanto*, void.

These grounds of defense require an examination, not only of the state of the art when the complainant's invention is alleged to have been made, but an examination of the complainant's original patent, specification, drawings, and model, to learn therefrom what invention by the complainant is disclosed thereby, for it was conceded by the counsel for the complainant, on the hearing, that, in their opinion, at least, nothing can be legally claimed in the reissue, which does not appear either in the specification annexed to the original patent, or in the drawings, or in the model, even though it was, in fact, the invention of the patentee, and its use was contemplated by him when the patent was applied for, and that the reissue could not, in that respect, be sustained by extrinsic proof that the patentee was, in truth, the inventor of all that was included in it, if neither the original specifications, drawings, nor model showed or suggested the device in question. This is in accordance with the object of a reissue, and with the license therefor given by the law. It is where a patent is inoperative or invalid by reason of a defective or insufficient description, specification, or claim, and not where the device is not described or specified at all, that permission is given to reissue the patent. Devices not described or specified may, if they are the invention of the patentee, be the subject of a patent, subject to

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all other rules governing the inventor's right; but it is the office of a reissue to embrace them. *Seymour v. Osborn*, Wall. 516, 544. It is true that an observation of the *Hussey v. Bradley*, 2 Fisher's Patent Cases, 362, 371, broader scope to the right of reissue, and an intimation in *Doughty v. West*, Ib. 553, 556, is in the same direction. In the subsequent case of *Doughty v. West*, 3 Ib. 380, and C. C. 429, founded on a reissue of the same patent, the case was sustained on grounds entirely consistent with the above stated, and the rule is, in my judgment, not only correct in principle, but settled by the authority of the Court in the case first above named.

1. This view of the law renders it necessary to inquire whether the invention is disclosed by the original record—the original specification, drawings, and model—and, in that inquiry, the right of the complainant must be conceded, to supply any defects or insufficiencies in the description of anything which is therein in any form.

In the original specification, the patentee declares that the object of his invention is “to provide a wheel with a wooden hub that will admit of a greater number of spokes in each wheel than can be used by the old method, on account of the hub being taken away, by mortises, to receive a number of spokes, that are placed sufficiently near together at the rim of the wheel to prevent it from being flattened between the spokes by fast driving.” It also consists in giving greater strength to the spokes near the hub, and to the hub itself.” A twofold, or, perhaps, a threefold object, is thus announced: first, strengthening the wheel by increasing the number of spokes; second, giving greater strength to the spokes at the hub, and, at the same time, strengthening the hub itself. Obviously, each of these objects was desirable, and, obviously, each would be useful, whether they were combined or not. If the proposed devices, or either of them, could be used separately from the others, so that either could be effected, a useful result would follow, which is actually done, and avowed to be within the scope of the invention.

The nature of the invention is then declared to consist in the employment of flanged collars of metal, to be used in connection with a wooden hub, as follows: “I use, in gener-

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small hub of wood, much smaller than in the old style of wheel, and, instead of making sixteen mortises, as is common for spokes, I make, in general, nine or ten for the tenons, somewhat larger than in the ordinary way, and, between each of these spokes, I make a mortise in the hub, about three-eighths of an inch deep, and insert spokes wedge-shape, as shown by the drawing accompanying this specification." This, it will be seen, explains the device which the patentee declares he generally employs for increasing the number of spokes, to strengthen and sustain the nave of the wheel, without unduly cutting away the hub by mortises; and the drawing shows that, in this arrangement, the spokes have a firm bearing against each other at and for a short distance exterior to the wooden hub, so as to form a solid bearing around and exterior thereto.

Next he describes his device for giving greater strength to the spokes at the hub and to the hub itself: "After the spokes are all fitted, I put the flanged collar on the back part of the hub; the collar fitting closely to the hub, serves to strengthen and support the same, while the flange fits closely to the back of the spokes. I, in general, make three screw-holes in the collar next the hub, into which I insert screws, so that the collar will retain its position, in case the hub should shrink. In the flange that fits against the spokes, I, in general, make five one-fourth inch holes, in which I cut a thread to receive screws. After the back flange collar is secure, I put on the front flanged collar on the front of the hub, it fitting closely to the hub, but is not screwed thereto, the flange fitting closely to the front of the spokes. In these flanges there are five holes, opposite those in the back flange. I now bore five one-fourth inch holes through the spokes, and insert screws, drawing both flanges firmly against the spokes, thereby securing all the spokes firmly in their proper place." This part of the specification discloses the device by which the object secondly named, which the patentee had in view, is secured, namely, giving greater strength to the spokes at the hub, and at the same time strengthening the hub.

The specification then proceeds to state the dimensions of the hub and spokes ordinarily used, and the gain in effective strength in the smaller hub, with spokes fitted as first described, and the greater power of resistance resulting from the bearing of the

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spokes on the flanges on either side thereof; and it then adds that "this arrangement can also be applied to a wheel with the ordinary number of spokes, thereby preventing the tenons at the hub from being broken off." This imports, in connection with what precedes, that, although the inventor, "in general," uses the greater number of spokes, some of which are inserted in the hub by tenons, and the others, in wedge-form, enter very slightly into the hub, yet his arrangement can also be applied to a wheel with the ordinary number of spokes; and its effect in "preventing the tenons from being broken" indicates that in such case the spokes are tenoned into the hub—that is to say, it can be applied to a wheel with the ordinary number of spokes inserted by tenons into the hub, which describes the ordinary wheel. It contemplates, as a practical use of the flanged collars, their application to a wheel not containing the additional number of spokes before described as being without tenons. It, therefore, contemplates the application of those collars to an ordinary wheel, or, possibly, to a wheel in which, although the ordinary number of spokes are used, their shoulders between the flanges are so enlarged as to bear against each other. This latter mode of fitting the spokes to a bearing is certainly not expressed, and it seems, therefore, most in accordance with the terms to regard it as a suggestion that such flanged collars may be applied to an ordinary wheel with tenoned spokes, and that, when so applied, they strengthen the hub and strengthen the spokes and "prevent the tenons at the hub from being broken off."

The specification then points out the special advantage of the flanges and the importance of securing the back collar to the hub, with the capacity of tightening the front collar on the spokes, if they shrink, in view of the custom of giving a light wheel a dish form, in which there is great strain upon the tenons of the spokes, and also in view of the necessity at times of resetting the tire.

In the drawings annexed to the specification, and in the description of the drawings contained in the specification, he gives only one kind of wheel, and that embraces both features or devices before mentioned, combined—that is to say, a wheel with the flanged collars and with the increased number of spokes, of which a part are not tenoned, but are wedge-shaped, and enter but

slightly into a small mortise in the hub. This, however, is not material to the validity of the reissue, if, in fact, what was already in the specification embraces the application of either of his devices to a wheel with the ordinary number of spokes tenoned into the hub.

The statement of the claims of the patentee may properly be referred to as an aid to the same point of inquiry—what is described as an invention of the patentee? The first claim is: "The employment of flanged metallic collars, as described, or other equivalent devices, in combination with a wooden hub, and these in combination with the arrangement of the spokes at the hub, as described, by which means strength and support is given both to the hub and to the spokes at and near the hub, and by which means I am enabled to use any desired number of spokes in each wheel * * * and a much smaller hub than those in general use, and at the same time retain a sufficient degree of strength at the hub, the whole being constructed and arranged substantially as and for the purpose set forth." This claim manifestly points to and includes both of the devices, as shown in the drawings and model, and contains no suggestion or hint of any construction of a wheel except by making a part of the spokes with tenons, and a part in a wedge form without tenons, so fitted that the spokes at the hub bear upon each other.

But the second claim has manifest reference to the other arrangement of spokes, already named in the specification, as follows: "I also claim the flanged collars, as described, or other equivalent devices, when used in combination with a wooden hub, if the spokes are arranged as herein set forth, or in any other manner"—that is to say, he claims the flanged collars in combination with a wooden hub, although the spokes are all tenoned into the hub. Read in connection with the specification, which declares that his arrangement "can be applied to a wheel with the ordinary number of spokes, thereby preventing the tenons at the hub from being broken off"—in which case it is obvious, from the whole specification, that there will be none which are not thus tenoned—this claim is comprehensive enough to embrace flanged collars applied to a wheel in which there are tenoned spokes only; and, so read, it is specific enough to refer to the application thereof to the ordinary number of spokes, previously mentioned.

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Be it here observed, that this review of the original specification and claims is not for the purpose of testing their sufficiency or validity. If insufficient or defective, their defects and deficiencies might be cured by the reissues. This review is for the single purpose of seeing what inventions or devices are disclosed therein; and it leads to this conclusion, that the patentee therein disclosed two devices—one consisting of spokes, of which a part are tenoned into a wooden hub, and a part are in wedge-form, not thus tenoned; the other consisting of flanged collars applied to the hub and the spokes therein, whether the spokes are constructed in the manner last named or in any other manner. And the preceding specification points out the application of flanged collars to a wheel containing the ordinary number of spokes, in which it is probable, at least, that the extra increased number of spokes not tenoned into the hub are omitted.

The reissued patent, while it retains the drawings of the original patent, which show the device of metallic flanges applied to a wheel having a part only of the spokes tenoned into the hub, is more specific in declaring that the invention embraces the combination of the metallic flanges with a wooden hub into which the spokes are tenoned, without including the wedge-form spokes or the solid bearing of the spokes upon each other exterior to the hub. The review of the original patent already given, shows that we think, that this is not an extension of the patent to a device not found in the record of the original. If so, then one advance has been made in the investigation of the questions raised by the defense—that is to say, the reissued patent is not, on its face, invalid in this feature, as embracing an invention not found in the original patent, specification, drawings, or model.

2. The reissue also declares, that the invention, in another part, “consists in the construction of a wheel in which the spokes are combined with a wooden hub by tenons, and with each other in such a manner that they afford mutual support in the vicinity of the hub, or so that the strain applied to any one spoke in the direction of the length of the felly of the wheel is propagated to the adjacent spokes in the vicinity of the hub, and through the tenons that enter the hub, whereby such strain is distributed among all the tenons that enter the hub, instead of being borne by that one only of the spokes to which the strain

plied." And the third part of his invention is declared to be a wheel combining both of the foregoing characteristics, namely, the mortised wooden hub, with spokes having tenons, and so combined as to form the solid belt outside the hub, and also the metallic flanges embracing the sides of the spokes. Although, in this part of the specification, the use of spokes not entering the hub by tenons is not mentioned, the drawing exhibits them as in the original patent, and the detailed explanation of the drawings distinctly recognizes the fact that a part only of the spokes enter the hub by tenons.

The result is, that the device of strengthening the spokes at the hub by making them bear upon each other, so as to form a solid belt of wood around and exterior to the hub, is, by the introduction of wedge-shaped spokes between the tenoned spokes which are not made wedge-shaped, the giving to the tenoned spokes a somewhat larger tenon than usual, which, by the omission of the tenons on the intermediate spokes, is rendered practicable, without injuriously cutting away the hub. No other mode of constructing this device, or of securing the solid bearing of each spoke upon the others, is shown, suggested, or hinted at, either in the original patent or in the reissue.

This mode of giving to the spokes a bearing upon each other, the defendants have not adopted. In the defendants' wheel there is no spoke not tenoned into the hub; the spokes do not bear against each other, and their form near the hub is not the same as described in the complainant's patent. Whether, in this respect, the defendants use a mere equivalent, will, if necessary or material, be hereafter considered.

This mode of giving support to the spokes by their bearing on each other is not new; and, if we were compelled to construe the plaintiff's patent and claim as so broad as to include, as a distinct device, every mode of constructing the spokes so as to give them a solid bearing around the hub, we should be also compelled to say, that, so construed, the patent is, in that particular, void. The wheel known and designated, on the trial, as the Woodruff and Beach wheel, contains that device. The contact of each spoke with another on either side formed a solid belt of wood around the hub, operating in reference to resistance of strain in the direction of the plane of the wheel, precisely as the like

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arrangement in the plaintiff's wheel. It was suggested that wheel, such contact was not exterior to the hub. suggestion is not warranted; for the distance from the which that contact should be carried in the Woodruff wheel is matter of mere judgment and not of invention; sides, in that wheel, such contact was carried to a distance to the hub, unless the flanges applied on each side the lateral strain be regarded as part of the hub; and, claimed, the same must be no less true of the plaintiff's and in neither of them is the contact or bearing of the upon each other carried outward beyond the edge of the It follows that, in respect to the use of spokes bearing other at and near the hub, as a separate device, the plaintiff can only be sustained by giving the specification of the construction above already stated. It must be confined to a specific mode of effecting the result which the patentee has described, and which alone he has described, and that mode of construction the defendants have not used.

3. As to the lateral support given to the plaintiff's flanges, viewed as a distinct and separate device, the defendant can not be charged for several reasons: First. Flanges were used before on an iron hub in the Woodruff and Beach wheels, and their application differed in no wise from the plaintiff's except that the inner flange on the plaintiff's wheel, as described by the patentee, is made fast to the hub by being screwed on, and, in the Woodruff and Beach wheel, it was attached to the hub firmly by being cast with it. In both, the outer flange was adjustable, and was made fast to the other by passing from one to the other. The transfer of flanges from an iron hub to a wooden hub would not be patentable, and required some ingenuity or contrivance to adapt it to use in the plaintiff's position. Second. The defendants have not used flanges constructed or applied in the manner devised or used by the plaintiff, but have used, and only used, mortised collars. Third. The use of mortised collars on a wooden hub is found in the Parfrey patent, long before the invention of the plaintiff. Fourth. If, then, the mortised collar is to be deemed an infringement on the flanged collars claimed by the plaintiff, the latter has an exclusive right to use them, because the mortised collar was

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device ; and, on the other hand, if such mortised collar is not an equivalent to the flanged collar, the defendants have invaded no right of the plaintiff in this respect, because the defendants have not used the flanged collars, and have a perfect right to use the mortised collar.

4. It follows, from these views, that the defendants have violated no right of the plaintiff in respect to the several parts of the wheel, viewed separately, as distinct devices. The right to construct a wheel having spokes tenoned into a wooden hub was not vested exclusively in the plaintiff. That was found in what is conceded to have been the ordinary wheel long in use. The right to construct a wheel wherein the spokes are in contact, and bear upon or against each other at or near the hub, was not vested exclusively in the plaintiff, except when constructed in the confessedly novel mode which alone is suggested in his patent, namely, by introducing between the tenoned spokes other spokes or pieces of wood in a wedge form, to fill the intermediate spaces, but not tenoned into the hub. The right to use the mortised collar is not vested exclusively in the plaintiff, whether it be regarded as equivalent to his flanged collars or a different device, and the defendants have used the mortised collar only. If, therefore, the defendants were sought to be charged as infringers, by reason only of their use of the plaintiff's devices, viewed separately, or separately patented, or as merely connected with a wooden hub, the plaintiff must fail. Each of these, separately, the defendants have a right to use.

5. It follows that, if the plaintiff is entitled to charge the defendants at all, it is in virtue of some combination of these devices, claimed and secured to him by his patent. Upon this point the case is a very close one, and is not without embarrassment.

The rules of law applicable to the subject of combinations are free from difficulty. The counsel for the parties respectively do not appear to differ in relation to those rules, so far as they bear upon the present case. First. A patent for a combination, where neither part is patented as new, is not infringed by one who uses one, or some, but not all, of the parts. Second. A mere aggregation of parts, whereof the patentee has not the exclusive right to either, and in which the parts have no new operation and pro-

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duce no result which is due to the combination itself, is not patentable. *Hailes v. Van Wormer*, 7 Blatch. C. C. 443; and see an analogous principle in cases which hold that the mere appropriation of an old device to a new use is not patentable; *Simpson v. Woodman*, 10 Wall. 117; cases collected in Curtis on Patents, sec. 33 and note; *Bean v. Smallwood*, 2 Story, 408; *Winans v. Railroad Co.*, Ib. 412; *Hotchkiss v. Greenwood*, 11 How. 248.

The first claim in the reissued patent is: "A carriage-wheel constructed with the spokes combined with the wooden hub by tenons entering mortises in said hub, and with each other, in such manner that a solid belt is formed around the said hub, substantially as before set forth." Recurring now to the specification and to what has already been said on the subject, it will be seen that this is not a combination of tenoned spokes with any and every manner of connecting the spokes at or near the hub, so that they shall bear against or upon each other, but a combination of tenoned spokes with the construction alone described in the specification, to wit: the alternation of tenoned spokes with spokes in a wedge form not tenoned into the hub. This combination the defendants have not used.

The second claim is: "A carriage-wheel constructed with a mortised wooden hub, with tenoned spokes, and with flanges which embrace the faces of the spokes in the immediate vicinity of the hub, and are connected together so as to form a metallic band, through which the spokes extend into the mortises in the wooden hub, substantially as before set forth." This claim, construed by the aid of the specification, is for the combination of the two flanges with tenoned spokes, the two flanges being connected together so as to give lateral support to the spokes.

This second claim raises three questions involved in the present case, which may be most intelligibly discussed in the following order: First. Have the defendants used this combination? and if so, then, second, is such combination patentable? or is it a mere aggregation of devices not involving patentable invention? and, third, is it a new combination?

The defendants have not used—it is not claimed that they have used—flanged collars, constructed separately, to be separately applied and bolted or screwed together. The mechanical construc-

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tion of the mortised collar, cast in one piece, with divisions between the mortises for the several spokes, and with tapering sides, formed to receive the spokes driven tightly therein and give them endwise bearings, is not the same as the plaintiff's flanged collars. They perform a different office in the particular last named, which the plaintiff's flanged collars do not and can not perform. The defendants' mortised collar and the plaintiff's flanged collars are, therefore, not identical, either in mechanical construction or in the office which they perform. It is, nevertheless, claimed that, in the particular construction and office which is embraced within the plaintiff's second claim, they are the precise equivalent of the plaintiff's flanged collars. This claim suggests a question of some interest: Is a device which, both mechanically and practically, performs the same precise office of another device, in substantially the same manner, any less an equivalent of the latter, because it also performs another office or offices, by reason of a difference in its mechanical construction?

The mortised collar used by the defendants has its two sides in the same form as the two flanged collars of the plaintiff. In reference to the purpose for which the plaintiff's two flanged collars are used—to wit, to strengthen the hub and to sustain the spokes against lateral pressure or strain, and to co-operate with the tenons in giving firm support to the spokes—they perform identically the same office as the plaintiff's flanged collars, and in the same way. The circumstance that they are held together by connecting cross-pieces, made solid therewith, instead of by bolts or screws, has no effect on the manner of their operation in this respect. Are they, then, to be deemed any less the equivalent of the flanged collars, because, by reason of the greater number of cross-pieces, they are stronger, or because the cross-pieces between each two spokes and the sides of the mortise are tapered, so as to give an endwise bearing to the spokes, and enable the spokes to be driven in and be grasped firmly and held therein? I think not. In the use and for the purpose for which the plaintiff's flanged collars are useful, they are identical in the office they perform—to wit, to sustain the spokes against lateral strain. The mechanical construction in the parts which perform this office is substantially the same. The crosswise partitions and form of tapering mortises may be improvements upon the plaintiff's flanged

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collars, but the mortised collars do, nevertheless, open the purposes for which the flanged collars are used, in the same way. If the question was between a single device, conceded to be new, and a device claimed to be an equivalent, the alleged infringer could not prevail by showing that, although his device was an equivalent patented device, in all its functions, and in its construction and mode of operation; yet, by other or additional features, it possessed other and further useful functions. Such a device, perhaps, be an improvement upon the patented device, but, nevertheless, deemed an appropriation of the form.

This view of the subject of equivalents is not stated as a conclusion that, as separate devices, either of these has the exclusive right to the flanged collars or to the mortised collars. Both, as hereinbefore stated, are old. It does not follow that the plaintiff's combination of flanged collars with tenoned spokes is new; and the question discussed is, whether, in the combination of flanged collars with the tenoned spokes, the substitution of a mortised collar is not, within the meaning of the law, an equivalent. (being equivalent for the purposes, and in all the functions of the flanged collars) also contains other and additional features to its peculiar construction. In this view, the combination of mortised collar and tenoned spokes with a wooden hub is regarded as embracing the combination of the flanged collars and tenoned spokes with a wooden hub, claimed in the patent; and, if that patent is valid in respect of that claim, the defendants must be held to infringe it, notwithstanding that the combination used by the defendants may also include other features and produce effects not attainable by the plaintiff's combination.

6. The plaintiff's combination referred to in his second claim is distinguished from a mere aggregation of devices in that there is a reciprocal action or operation of the parts of the combination, each part acting upon the other and conjointly upon the entire wheel, each part giving to the other increased support and efficiency, and the two parts acting together to make a stronger and more durable wheel than is possible by the use of either without the other; that is to say, the spokes are strengthened and sustained in position by the flanged collars, and the flanged collars, bound to the spokes

necting bolts or screws, are more firmly held in position by the tenons of the spokes. Combined, they unite hub and spokes, enabling the wheel better to resist a blow or strain, either laterally or in the direction of its plane. It must be conceded, within the rule on this subject, that a combination of devices would not necessarily be patentable from the mere fact that their union produced a better wheel. If the superiority arose from the fact that the two devices were intrinsically better than others and the wheel combined both—each, however, operating independently of the other—the combination would be but the exercise of judgment in the choice of parts, and not invention in discovering new means to produce useful or better results. For illustration: one mode of securing the tire to the felly, or the felly to the spokes, may be better than any other in use. One form of axle-box, or a mode of securing the axle-box to the hub, may be better than any other in use; and it might so happen that both or all had never been used together in the construction of a carriage-wheel; and yet, both being old, one who should adopt both in the construction of a wheel, without other change in its construction, would not be an inventor, and his wheel would have no patentable quality. Each device is complete in itself: it performs the same functions and in the same way, in whatever wheel it is used, and without being influenced or affected by the other. This distinction may often be very nice, and sometimes may, for its application, require very close and careful discrimination; but the distinction is itself a substantial one. It reduces the basis of the second claim in the plaintiff's patent to somewhat narrow grounds, but it is sufficient to sustain it. A new relation is established between the efficient means of strengthening and supporting the parts of the wheel in question, and a new and greater efficiency is given to each, which is due, not to their inherent quality, but due to the combination itself.

7. If, then, this combination embraced in the second claim was new when the plaintiff received his patent, or, in other words, if he was the inventor, his suit against these defendants must be sustained; for, if that second claim is valid, the defendants' wheel, under the interpretation above given to the rights of the plaintiff in other respects, is a clear infringement.

The patent is itself *prima-facie* evidence that the combination

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was new. The patents and models or specimens, given in evidence by the defendants, none of them contain the combination claimed. Neither the Smith and Parfrey wheel, nor the Wood Beach wheel, contain the tenoned spokes; and the latter contains no wooden hub. The others which have tenoned spokes have neither the flanged collars nor the mortised collar. There is no evidence of a prior use of this combination. There is certain oral testimony to the application of hoops or bands to the hub, to increase its strength; the use, in various instances, of rings, or parts of rings, applied to the spokes on one side, and bolted together, to repair a wheel wherein some of the spokes had been split or broken near the hub. There is the testimony of one witness, that his father and himself applied to new wheels, at the hub, next to the spokes, on one side, a ring of iron of considerable size in either direction, bolted the one ring to the other, to bind the hub, and as to retain the tenoned spokes. Without questioning the sincerity of the witnesses who testified on this subject, or doubting their intention to testify truthfully, we must say that the evidence is very satisfactory; and the whole either failed to show an invention new to the plaintiff's device, or was otherwise of too uncertain a character to warrant a conclusion that there was an actual anticipation of it. The witness last referred to, testified to some approximation to the flanged collars, at best, and only in a few instances used at all. But that the testimony fails to show satisfactorily such prior knowledge, or use of the plaintiff's combination as invalidates his patent in respect to the second claim, which alone the defendants have infringed.

8. It is not without doubt and hesitation that we have reached the conclusion that the plaintiff is, upon the grounds above stated, entitled to a decree. There is some reason to believe that the whole invention, as regarded by himself, and set forth in the specification annexed to his original patent, was the improvement of the number of spokes, by introducing wedge-shaped spokes which should not be tenoned into the hub, lest it should cut it away, and, at the same time, enlarging somewhat the hub, and the spokes which were tenoned, and strengthening them, particularly those not tenoned, by the flanged collars.

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wheel the defendants have not constructed. But the plaintiff may have contemplated the use of flanged collars generally in combination with tenoned spokes, and the analysis of his specification and claims, which we have given, indicates, at least, that they are sufficient to include it.

The plaintiff must have a decree declaring the defendants to have infringed the second claim of the patent, and ordering an injunction. The plaintiff having, since the suit was commenced, surrendered the patent upon which his suit was founded, and his case now standing on the reissue of the patent granted September 6, 1870, set forth in his supplemental bill, he is not entitled to an account of anything done prior to that date; and, as this suit was commenced prior to the patent law of 1870, he is not entitled to damages as such, notwithstanding the fact that his supplemental bill was filed after the passage of the act.

JUDGE SHIPMAN concurs.

NATHANIEL JENKINS

vs.

JOHN JOHNSON ET AL. IN EQUITY.

The reissued letters patent for an "improvement in the manufacture of elastic packing," granted to Nathaniel Jenkins, August 3, 1869, are valid.

The first claim of that patent, namely, "An elastic packing, composed of at least four-tenths of finely pulverized, refractory, earthy, or stony material, intimately mingled with, and held together by, rubber prepared for vulcanizing, and then vulcanized, as and for the purpose described," claims a packing, into the composition of which there enters at least four-tenths of refractory, earthy, stony, or mineral matter, which must go in in a pulverized state, in order to be intimately incorporated with the India-rubber, which serves as a vehicle to hold the powder, the compound being then vulcanized by subjecting it to

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heat, in the presence of sulphur, and the result being a packing which is elastic, while it is indestructible by heat.

The letters patent for an "improvement in steam globe-valves" granted to Nathaniel Jenkins, October 6, 1868, are valid.

The claim of that patent, namely, "The arrangement of the face, *I*, of the valve-head and the elastic packing held in recess in the valve-head, as described, with the valve-seat raised seat, *f*, in the manner as shown and specified," the arrangement of an annular chamber or cup, containing an elastic packing, with a raised seat, in connection with the two bearings outside of the cup and the raised seat, the whole operating in the manner described.

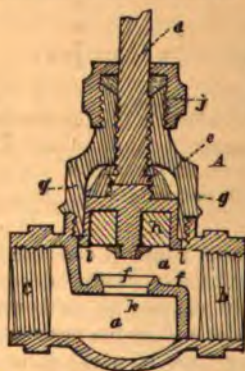
Such invention is not anticipated by a valve consisting of a valve-head and a metallic receptacle fitting over it; nor by a valve consisting of a seat and a cup, and a packing of lead or tin fused into the cup.

(Before BLATCHFORD, J., Southern District of New York, April 1870.)

FINAL hearing on pleadings and proofs.

Suit brought upon two letters patent—one for an "improvement in the manufacture of elastic packing," granted to complainant, August 8, 1866, and reissued August 3, 1869; and the other for an "improvement in steam globe-valves," granted to defendant, October 6, 1868.

The nature of both inventions is set forth in the opinions of the court.



Jenkins.



Johnson.

The foregoing engravings illustrate the globe-valve of the plaintiff, and that covered by a prior patent granted to the defendant.

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In Jenkins' valve the elastic packing, *h*, is placed in an annular ring, *l*, which formed the valve or stopper. When the valve descends, the packing presses on the raised seat, *f*, or if the packing is worn or distended, it presses upon the body of the seat below the raised portion.

The Johnson valve contained a raised seat and an annular valve or stopper, *d*, but no elastic packing.

Thomas W. Clarke and William D. Booth, for complainant.

Anthony R. Dyett, for defendants.

BLATCHFORD, J.

This suit is founded on two letters patent granted to the plaintiff. One of them is a reissued patent, granted August 3, 1869, for an "improvement in the manufacture of elastic packing," the original patent having been granted to the plaintiff, as inventor, May 8, 1866. The other is a patent granted to the plaintiff, as inventor, October 6, 1868, for an "improvement in steam globe-valves."

The specification of the packing patent describes the invention as one of an "elastic packing for joints and valves exposed to destructive fluids." It says: "The nature of the invention consists, first, in constructing the packing of refractory earths, or earthy and stony matters, mingled with rubber and such other materials as are necessary to vulcanize the rubber, in such quantity that the earthy or stony matter shall be more than four-tenths of the entire compound, and then vulcanized in molds to the desired shape of the packing; and, second, in the selection of such earthy or stony materials, and proportioning them in the compound. All elastic packing, of indestructible properties, to a valve, joint, or aperture through which a destructive fluid is to pass, such as steam of any kind, hot water, kerosene, or other coal oil, hot or cold, has been unattainable till recently; but, after experiments of more than one year, I claim to have discovered a tight, indestructible, elastic packing, for these purposes. It will be seen, from the following formulas, that a leading feature of the composition is, that it contains large quantities of earthy material, such as French chalk, or talcose matter, a very

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refractory material; Paris white, a substance which posed only at a very high temperature, and in presence of gases of combustion, or of strong acids, with steam, easily fused; and litharge, which assists in vulcanizing not tend to decompose the other ingredients, at the temperature to which the composition is exposed. In the selection of earthy or stony matter, the choice would be governed by the facility of pulverization, and insusceptibility to heating influence. The use of stone is indicated as an ingredient by the use of French chalk. Paris white indicates the use of other earthy carbonaceous substance. The substance of the invention is the employment, for a part, of an earthy powder of refractory quality, intimately mixed with vulcanized rubber, and constituting forty per cent. of the composition by pound. With the following ingredients, the proportions may be varied, but must be within the following limits: pure rubber, from 20 to 30 per cent.; pure gum shellac, from 10 to 20 per cent.; pure French chalk, from 20 to 30 per cent.; pure litharge, from 11 to 18 per cent.; pure lamp-black, from 2 to 3 per cent.; pure sulphur, from 1 to 3 per cent. Increase the quantity of rubber when the fluid to be coated is less penetrating; and increase the quantity of Paris white, French chalk, litharge, and shellac, when it is more penetrating. One hundred parts of the above substances, mingled with the proportions of percentages given, will be comparatively indestructible, in the presence of coal-oil, steam, or hot water, and will preserve their elasticity and texture for a long time." A table is the annexed, showing the proportions in use, with coal-oil, steam, and hot water. It is to be noted, that the various ingredients above mentioned, when stated, have given favorable results, and which the patentee is inclined to consider the best attainable for their respective purposes. They range, except as to lamp-black, which is from 2 to 3½ per cent., within the limits before stated. The description continues: "I do not, however, confine myself to the proportions, but consider the composition most accurate within the limitations given before. The ingredients, other than the rubber, are to be finely powdered and intimately mixed with the rubber. They are then to be spread on the surface of the rubber, and rolled with it, between cold rollers, until they are thoroughly incorporated with the substance of the rubber. The mass

to be molded in iron molds, of proper shape, and subjected to a high vulcanizing heat—say that due to a steam pressure of sixty to seventy-five pounds, or, if desired to be very hard, even more—for from twenty to forty-five minutes.” The claims are as follows:

“1. An elastic packing, composed of at least four tenths of finely pulverized refractory, earthy, or stony material, intimately mingled with and held together by rubber prepared for vulcanizing, and then vulcanized, as and for the purpose described. 2. The composition of the ingredients, and within the proportions above set forth, substantially as and for the purpose described. 3. The employment of French chalk, or equivalent talcose mineral, substantially in the manner and for the purpose described.”

“Refractory” is thus defined: “Noting earths or metals that are infusible, or require an extraordinary degree of heat to fuse them.” “Earth,” in chemistry, is “a metallic oxide, inodorous, dry, unflammable, and infusible;” and, among the chemical earths, are silica and magnesia. A metallic oxide is composed of oxygen and a metal, as a base. A “stone” is “earthy or mineral matter condensed into a hard state.” A “mineral” is defined as “a natural body, destitute of organization or life—a substance found in or on the earth, which is neither animal nor vegetable.” “French chalk” is “steatite or soapstone—a soft magnesian mineral.” Soapstone is composed chiefly of silica and magnesia. “Steatite” is defined as “a variety of talc—soapstone.” “Talc” is defined as “a mineral,” and is composed chiefly of silica, magnesia, and water. Litharge is an oxide of lead.

The answers set up want of novelty and want of patentability and non-infringement, as a defense to the packing patent; but there is no specification of any prior invention.

There can be no doubt, on the proofs, that a packing compounded and prepared like the plaintiff’s packing, and possessing its characteristics, did not exist before his invention. It is highly useful, supplied a great need, and has displaced previous packing, where resistance to destructive fluids is required.

The proper construction of the first claim of the patent is, that it claims a packing, into the composition of which there enters at least four-tenths of refractory, earthy, stony, or mineral matter, which must go in in a pulverized state, in order to be intimately incorporated with the caoutchouc or India-rubber, which serves

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as a vehicle to hold the powder, the compound being canized by subjecting it to heat in the presence of sulphur, the result being a packing which is elastic while it is destructible by heat. In the product, the India-rubber and sulphur are chemically combined, forming vulcanized India-rubber, but the substances which, in the completed product, give it its refractory character, are not chemically combined with the vulcanized India-rubber, but act mechanically. The refractory character of the product is due to the non-elastic refractory substances, while its elasticity is due to the non-refractory vulcanized rubber. It was necessary that the packing, to serve all the purposes of a packing, should be both refractory and elastic. It should thoroughly resist heat; yet, if it were not elastic, so as to possess resilience, under pressure, to tightly close all orifices when the packing was to be closed, it would not fulfill the purposes of a packing. It might act for a short time as a practical elastic packing, but it would yet soon be destroyed by heat, if not so refractory as to resist the effects of heat for a long time. But the patentee discovered a compound fulfilling the conditions of that claimed in the claim would be comparatively indestructible in the presence of coal-oil, steam, and hot water, and would preserve its form and texture for a long time.

The packing of the defendants is an elastic packing constructed of refractory earths, mingled with India-rubber and sulphur, and then vulcanized. It has the indestructible character of the plaintiff's packing. It contains large quantities of soapstone. Its earthy refractory matter constitutes forty per cent, at least, of the compound. The soapstone is in the proportion of from fifteen to twenty-five per cent. The ingredients of the defendants' packing, by analysis, are India-rubber, sulphur, the oxides of lead and iron, and soapstone. The proportion of India-rubber and the proportion of sulphur to the whole compound exceed, each of them, the highest percentage given in the specification for those articles respectively. But it is shown that an excess of sulphur beyond the amount taken up by the India-rubber for vulcanization unites with the iron and lead and the refractory mineral matter, and that such refractory mineral matter and the soapstone together are, at least, forty per cent of the whole compound. This refractory forty per cent. acts me-

to resist heat, after the sulphur has united with the iron and lead, and is cemented together by the vulcanized India-rubber, which gives to the whole mass the necessary elasticity. The packing is substantially the same as the plaintiff's packing, as regards its mechanical application and operation in use, and its adaptation to the end desired. It results, therefore, that the defendants have infringed the first claim of the patent.

Regarding the third claim as a claim to the employment of French chalk or equivalent talcose material, in the range of proportions named in the specification, in the compound covered by the first claim, the defendants have infringed the third claim also. This construction of the third claim is the one contended for by the defendants. Whether the third claim is susceptible of a broader construction, it is not necessary to decide in this case.

The specification of the valve patent says: "The invention is of that class of globe-valves in which an elastic or semi-elastic packing is employed for sealing the joint of the valve, the object of this invention being to provide more perfect security, or additional means of security, against clandestine escape of the steam or water about the joint of the valve, when closed, the same construction which accomplishes this also producing a durable or lasting valve. The invention consists in a peculiar construction or arrangement of parts, and the combination therewith of an elastic or semi-elastic annulus or packing, the arrangement of parts being such that, in the event of the destruction or weakening of the elastic packing, the metallic portions of the joint shall come in contact and operate to effect a tight union of the same." The structure is then described. It is a globe-valve, having a chamber, an inlet, an outlet, a stem, a stopper or valve, on the bottom of the stem, and a raised seat or annular ledge, *f*, raised some distance above the surrounding metal, *f'*. The stopper or valve is composed of a metallic head, pivoted to the lower end of the stem, in any suitable manner, such head being formed, upon its under side, with an annular chamber, for the reception of an annulus or packing of elastic or semi-elastic India-rubber, or other suitable material or compound, such packing being retained in place, in its chamber, by a nut screwed upon the shank of the head, and partially overlapping it, the packing extending a short distance below or beyond the annular lid, or circumscrib-

The defense in regard to this patent is non-infringe-
that the defendant, Johnson, was the prior inventor of the
improvement covered by the patent, and that the valves
sold by the defendants are such as are described in, letters
granted to the defendant, Johnson, August 15, 1865, for the
improvement in steam-valves.

The proper construction of the claim of the patent, the state of the art at the time of the plaintiff's invention, it claims the arrangement of an annular chamber or containing an elastic packing, with a raised seat, in connection two bearing surfaces outside of the cup and the raised whole operating in the manner described. The valve to Johnson in August, 1865, consisting of a raised seat, tallic receptacle fitting over it, does not anticipate the Nor does a valve with a raised seat, and a cup, and a lead or tin fused into the cup. The elastic packing is an element in the arrangement. The full utility of the

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and the cup, and of the two bearing parts outside of them, is not developed until an elastic packing is used. The use of the elastic packing is not the mere substitution, in respect of the arrangement covered by the claim, of one packing for another equivalent packing. The use of an elastic packing is necessary to fully utilize the form of valve, and the form of valve is necessary to develop all the merits of such elastic packing as the specification of the plaintiff's patent speaks of—packing which becomes enlarged or distended by pressure or heat, and which, by the use of the plaintiff's arrangement, will, when it escapes outside of the cup and the raised seat, be pressed between the outside bearing surfaces, to still secure a tight joint. Lead or tin packing, fused into a cup, is not an elastic packing, in the sense of the plaintiff's specification, nor is it the equivalent of such elastic packing.

The earliest date of the application of the plaintiff's arrangement by Johnson, in making valves, was October, 1867. The plaintiff applied it a year earlier.

Nothing that is adduced by the defendants affects the novelty of the plaintiff's invention in the valve patent; and the valves made and sold by the defendants are like the plaintiff's valve, in construction and arrangement.

There must be a decree for the plaintiff, for a perpetual injunction and an account of profits, in respect of the first and third claims of the packing patent, and of the claim of the valve patent, with costs.

Baldwin v. Bernard.

NATHAN A. BALDWIN

vs.

HENRY O. BERNARD ET AL. IN EQUITY.

It is irregular, in a suit in equity, to swear a person to an affidavit in the suit, before the bill has been filed.

An affidavit may properly be taken before the filing of the bill, but not be entitled in the suit.

A hat may infringe the Blake patent, and yet be seamless throughout.

The essence of the invention of Blake being, that the product of the dies to which the thing is last subjected is the complete of the bonnet, embossed in imitation of straw, and shaped and for practical use, as the body of a bonnet, without further cover ornamentation, the patent is infringed if the last embossing gives the ultimate shape to the bonnet, although such dies may be of the same shape as a die to whose shaping action the bonnet has previously subjected.

The question of withholding an injunction, if the defendant will license, considered.

(Before BLATCHFORD, J., Southern District of New York, April, 1861.)

MOTION for provisional injunction.

Suit brought upon letters patent for an "improvement in the manufacture of coverings for the head," granted to S. A. Blake, December 24, 1861, and more particularly referred to in the opinion of the case of *Baldwin v. Schultz*, ante, 75.

Before the motion was heard the defendants moved to dismiss the application, on the ground that the affidavit of one Eickhoff, filed on to prove a sale by the defendants of the hats alleged to infringe, was sworn to April 6, but the bill was not filed until April 8, and the subpoena was not issued until April 12.

BLATCHFORD, J.

It is undoubtedly irregular to swear a person in a suit to an affidavit before the bill has been filed. The irregularity consists in having

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affidavit sworn to under the title of a suit, in which no bill has been filed. If the title had been omitted, there would have been no irregularity. This is continually done in applications for *habeas corpus* and mandamus, and to swear falsely in such affidavits is indictable as perjury. The suit is commenced when the bill is filed. Eicke's affidavit ought not to have been entitled in the suit. On this ground the affidavit of Eicke should be excluded, but I will permit it to be resworn. The parties must be considered as having had reasonable notice of it. They have had a copy of it.

The affidavits were then read, and, after argument on both sides, the following opinion was orally pronounced.

S. J. Gordon and George Gifford, for complainants.

C. B. Stoughton and S. D. Law, for defendants.

BLATCHFORD, J.

If I have correctly understood the counsel for the defendants, I see nothing in this case to distinguish it from the one in which Schultz and Hecht were defendants. I have listened carefully to everything that has been urged, and it has made no impression different from that produced upon my mind in the other case. The counsel for the defendants has entirely misapprehended the scope and effect of the former decision as to the Blake patent. It is very true that Blake, in his patent, describes that particular sort of hat which required, in order to make it, that there should be an opening cut in it. But that particular form of hat constituted no part of the invention of Blake. A hat may infringe the patent, and yet be seamless throughout. The essence of the invention, as it appears in the patent, is this: that the product of the action of the dies to which the thing is last subjected is the completed body of the bonnet, embossed in imitation of straw, and shaped and ready for practical use, as the body of a bonnet, without further covering or ornamentation. Now, this is true of the bonnet of the defendants. It is embossed fit for use, and shaped to the form in which the last dies used in its production leave it. It is of no consequence that other dies may have been

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used previously to shape it. It is no matter if it had been shaped by fifty dies previously. Bernard, in one of his affidavits, himself says that the last die used must be of the same shape as the previous one. This constitutes an infringement. This last die is the one that does the embossing. When the embossing is done by dies that have a shape, that shape is given by the embossing dies. Bernard, in his affidavit, says that it is absolutely indispensable that the embossing dies should have the same shape as the previous dies; and the embossing dies give the ultimate shape because their shape is not altered. In my former decision I said: "It is claimed, on the part of the plaintiffs, that, according to the description in the specification of the Blake patent, the purpose of the action of the dies is the completed body of a bonnet, embossed in imitation of straw, and fit for use as the body of a net, in the shape given to it by the dies, and without further ornamenting or covering its surface;" and I said I thought the views of Blake's invention were correct. The defendants do not afterward cover their hats, do not afterward ornament them, do not alter them in any manner. If the brim and top of the hat as well as the body, are embossed by the dies, it is none the less an infringement. I also said, in that decision, that the proper construction of the claim of Blake's patent is, "that it claims a net, the body of which is embossed, in imitation of straw or braid, by dies, which, at the same time, give to it its ultimate shape." Its *ultimate* shape. It is no matter how many dies have previously given shape to it. It may have been one, or it may have been twenty. It makes no difference what number of dies have been used. This last embossing die of the defendants is the one that gives the ultimate shape to the bonnet, because it is of the same shape as the previous die. The defendants say that there are two operations in the production of their bonnet. This is nothing but an attempt to evade the patent by splitting the thing into two—making two operations, where only one was necessary. That will not do. A case very similar to this, in this particular, was lately decided in the District of Connecticut (*Wallace v. Holmes*, ante), in which the patent sued on was for a lamp-burner, to be used with a chimney, and so described in the patent. The defendants made and sold the burner; but, because they did not make the chimney with it, they said they did not infringe. But I

held they did, as all the purchaser would have to do would be to buy a glass chimney next door and put it in. So, in this case, there was a purpose of infringing, I should say, in making two operations where only one is necessary. Courts always look with suspicion upon such a transaction. As to the Roger and Ledion patent, if that patent covered this invention, as to one thickness of muslin, it might be a patentable improvement to make the bonnet of two thicknesses. The defendants say that there is nothing in the fact of there being two thicknesses. Why do they not make their bonnets out of one thickness? There must be something in the using of two thicknesses. None of the parties who make the bonnets have used one thickness. The defendants may make as many hats as they please out of one thickness of muslin. In regard to the other suit—the suit against Schultz and Hecht—it is true that the parties on both sides in that suit were satisfied that the hearing should be had upon affidavits. The plaintiffs took the defendants' affidavits. The defendants took the plaintiffs'. The plaintiffs were willing to accept the defendants' affidavits as true, just as they were. The defendants did not care to cross-examine the deponents who made affidavits for the plaintiffs. It is not alleged here that any one of the witnesses knew anything else that could be brought out. Blake fixed 1860 as the date of his invention, and the defendants do not undertake to show that Blake did not make the invention when he said he did. The defendants say that if you take their hat from the first die and put it into their embossing die, you will get no salable hat; but, if you put the coating or putty upon the hat, after using the first die, and then use the embossing die, you will have a salable hat. But the point is, that they put the putty on, and then emboss the hat. They say that there is no infringement, because they do not emboss directly upon the muslin. True it is that, looking on the completed hat, the eye rests simply on the coating or putty, but the corrugations extend into and through the muslin, and show, as is here apparent, on the inside of the hat. This operation has an effect, over and beyond the mere ornamentation. There is a durability and stiffness in the hat made of this fabric. It is very light, yet, at the same time, it has the requisite stiffness. Now, this durability and stiffness and lightness are due to the fact that the hat is made out of two or three thicknesses of muslin, stamped

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in this way. If these defendants do not make the article of one thickness of muslin, there must be something in this idea of Blake's, of using two thicknesses. At first blush, one would think that there could not be any difference between a fabric made of one thickness of muslin and a fabric made of two thicknesses of muslin with paste between them. Yet these defendants do not use one thickness. They do use two thicknesses. Hats made of one thickness look to me just as good, but the evidence and the conduct of the defendants go to show me that they are not, and there is something in the use of two thicknesses which makes their employment necessary and useful. As to the coating of the bonnet is none the less an infringement because a coating is put upon it. Putting on this coating or putty may be an improvement—perhaps it is a useful improvement. But it is a mere addition. The defendants may have something more than I have, but it is none the less apparent that they have what I have. The same questions were before me in the Schultz and Hecht case. That case was fully argued. There is nothing which leads me to suppose that their counsel did not defend them to the best of his ability. Every point involved seems to have been presented. Besides, I studied that case thoroughly, and gave more time and attention to it than to almost any other case that has lately come before me. Especially did I thoroughly study it, its second argument, to make myself familiar with it, in view of the fact that, after having first given a decision one way, I was called upon to give one the other way. If the defendants in the Schultz and Hecht case would not permit the case to be opened up otherwise, there was certainly nothing wrong or fraudulent in making an arrangement to secure such re-opening. If a mistake had been made, it was the duty of the counsel, to himself and to his clients, and the court, to get the case re-opened, if possible. If this had not been done, it would all have had to come before the court at another time. If there was any suppression of truth or lack of full consideration, the court ought to look into it. So if any prior patent should be brought before me, or if any new testimony should be offered, it would be entitled to consider it just as if the other case had never been heard. But there is nothing of that character. In regard to the suggestion about the license, the defendants knew of this patent, and had notice of

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proceedings in the other case. They engaged in this business with their eyes open. They took the risk upon themselves. They asked for a license, but they did not ask for it on the ordinary terms. They wanted to impose conditions upon the licensors. It is undoubtedly true that, in some cases, and under certain circumstances, I have said I would not grant an injunction, except on refusal of the defendants to accept a license. I believe such was the fact in the car-brake case, the fat acid case, and, if I recollect correctly, in one of the hoop-skirt cases; but in all of those cases the plaintiffs were perfectly open and free to grant licenses to anybody. The more licenses they had, the better it was for them. But that is not the case with these plaintiffs. They undertake to show, in their affidavits, why it would be prejudicial to them for these defendants to have a license. [Mr. Law stated that the defendants do not want a license, such as is offered them, because they can not honestly live up to its terms.] The conduct of these defendants, in this regard, is certainly very honorable, and I should think they were just such persons as the plaintiffs would desire to be licensees. It does not very clearly appear, I confess, how granting a license would injure these plaintiffs. In Waller's affidavit, it is not very clearly expressed. [Mr. Gordon called attention to the fact that the plaintiffs are themselves large manufacturers, and that they and their present licensees can supply the market, and that this appears in the bill of complaint, as well as in the affidavits.] I did not observe that the plaintiffs are themselves manufacturers of the bonnets. They are entitled to the injunction.

Thayer v. Wales.

EDWARD S. THAYER ET AL.

v.s.

JOSEPH WALES AND JAMES M. DIETZ. IN EQUITY

The bill having alleged that the defendant was a resident of New Jersey in order to confer jurisdiction, it should appear affirmatively in the marshal's return that the subpoena was served on the defendant within the district in which the suit was brought.

The defendant having appeared by attorney, and having filed his plea to the jurisdiction by attorney, and not in person, this fact must be deemed an admission that the court has jurisdiction and a submission to the court.

A special appearance having been entered by the clerk upon the docket book, at the request of the defendants' attorney, without leave of court: *Held*, that such an appearance was an admission of jurisdiction.

A patentee having conveyed an undivided interest in the "invention secured" by letters patent, the same to be held and enjoyed "to the full end of the term for which said letters patent are or may be granted:" *Held*, that this conveyed to the assignee an interest in the extended term.

(Before BENEDICT, J., Eastern District of New York, April, 1872.)

PLEAS to the jurisdiction and in abatement.

Suit brought on letters patent for an "improvement in machines for making candles," granted to John Stainthorp, March 6, 1855; extended for seven years from March 6, 1869, and assigned to complainants, more particularly referred to in the report of the case of *Thayer v. Wales*, ante, 130.

The bill averred that one James M. Dietz, one of the defendants, resided in the State of New Jersey. He was served in the city of New York, but was returned "served personally," and did not appear where service was in fact made.

The attorneys of Dietz addressed the following paper to the clerk:

"Please enter our appearance for the defendant, Joseph Wales, in the above case; also, enter a special appearance for us for

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defendant, James M. Dietz, in order to save a default, that he may plead specially to the jurisdiction of this court, said Dietz not having been served with process in the Eastern District of New York."

The clerk entered in the order-book an appearance in the words of this request, and the defendant subsequently filed, by the same attorneys, a plea to the jurisdiction.

A motion was made at the same time to correct the return, to show where the service was made, that it might appear upon the face of the return that the defendant was not served within the Eastern District of New York.

The plea in abatement was filed by defendant Wales. The facts upon which it was based are fully set forth in the opinion.

M. B. Andrus, for complainants.

Abbett & Fuller, for defendants.

BENEDICT, J.

In regard to the motion made in this cause to correct the marshal's return of service of the subpoena upon the defendant, Dietz, by adding to the return that the service was made in the city of New York, it is sufficient to say that it is needless, in view of the decision in *Allen v. Blunt*, 1 Blatch. 487. That return, as it stands, does not show where the subpoena was served, and is not of itself sufficient to confer jurisdiction. The bill avers that the defendant, Dietz, resides in New Jersey, and it should appear affirmatively in the return that the subpoena was served on him within this district, to render such return a foundation for the exercise of jurisdiction over him. The motion may, therefore, be denied as useless.

The main question before me is presented by the plea to the jurisdiction which Dietz has interposed, upon which plea issue has been joined and testimony taken, upon which a decision is now to be rendered.

The plea avers that the defendant, Dietz, was never served with process in this district, but was served in the city of New York, and that he has never voluntarily appeared in the case. The

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proofs are sufficient to show that the service of the subpoena was made in the city of New York; and, if that were all, the jurisdiction must prevail, as the bill avers the defendant, Dietz, to be an inhabitant of the State of New Jersey.

But the difficulty is that the defendant, Dietz, has appeared in the cause by attorney, and his plea is filed by attorney, and not by person.

The appointment of an attorney, solicitor, or agent, to appear in the plea is put in, is, *per se*, an appearance—an admission that the court has jurisdiction and a submission thereto.

Werpe v. Hurlburd et al., 7 Blatch. 440. This rule, though technical, appears to be followed; and, if applicable in this case, there is no reason for omitting to apply it here, the subject matter of the controversy arose in this district, the defendant transacted a part of his business in this district, he could easily be found therein, and when his co-defendant partner engaged jointly with him in the infringement of the patent, of, is found within the district.

The fact that what is called a special appearance was made by the attorney for Dietz, without leave of the court, does not relieve the case from the application of the rule.

There must, therefore, be a decree for the plaintiff's plea to the jurisdiction, with liberty to the defendant to answer, if so advised.

The remaining question arises upon a plea in abatement proposed by the defendant, Wales, because of the non-joinder of Seguine as a party plaintiff.

The interest of Seguine in the patent sued on depends upon the indenture, in the following words:

"Whereas, I, John Stainthorp, of the city of Buffalo, in the State of New York, did obtain letters patent of the United States for an improvement in machines for making candles, which patent bear date March 6, 1855.

"And whereas, Stephen Seguine, of Staten Island, in the County of Richmond, State of New York, is desirous of acquiring my interest therein: now, this witnesseth that, for and in consideration of the sum of \$1000 and other good and valuable considerations to me in hand paid by him, the receipt of which is hereby acknowledged, I have

sold, and set over, and do hereby assign, sell, and set over unto the said Stephen Seguire, an undivided fourth part of all the right, title, and interest which I have in the said invention, as secured to me by the said letters patent, except for all that part of the United States lying east of Hudson river and Lake Champlain, and north of Long Island Sound; Long Island, in the State of New York, being included in this assignment.

"The same to be held and enjoyed by the said Stephen Seguire for his own use and behoof, and for the use and behoof of his legal representatives, to the full end of the term for which said letters patent are or may be granted, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.

"In testimony whereof, I have hereunto set my hand and seal, this 29th day of May, A. D. 1857.

"JOHN STAINTHORP. [L. S.]

"Signed, sealed, and delivered in presence of

"J. E. SHAW,

"J. H. B. JENKINS."

Subsequently to the execution of this instrument, an extension of the patent was granted, and the question here is, whether, by this instrument, Seguire acquired a right in the extension. If so, then it appears by the bill that he should be made a party plaintiff. This instrument appears to be the same in legal effect as the instrument which came under the consideration of the Supreme Court of the United States in the case of the *Railroad Company v. Trimble*, 10 Wall. 378. These words, almost identical, were held to convey an interest in all reissues, renewals, and extensions of the patent referred to; and, in obedience to that decision, I must give the present instrument a similar effect.

Upon the plea interposed by the defendant, Wales, there must, therefore, be judgment for the defendant, with liberty to the plaintiffs to amend.

No costs given to either party on either plea.

Barry v. Gugenheim.

CHRISTIAN BARRY

vs.

GUGENHEIM, DREYFUS & Co. IN EQUITY.

SAME.

vs.

HORACE EVERETT.

It is not sufficient that the parts or features of a machine which are essential to the production of the proposed result be shown in the Patent Office model. If the inventor desires to appropriate them, he must so inform the public by his specification; and if they are not so described, whether they relate to the construction or the mere adjustment of the machine, their use by others is not unlawful.

If the essential parts or features of a machine are such as the experience of a mechanic, skilled in the art, would devise or apply in the operation of the machine, a patentee can have no exclusive right to their employment.

Where the seam between the body and the cover of a metallic can had been closed by compression between revolving swages, so adjusted that their beveled faces were parallel to each other: *Held*, that a change in the adjustment which destroys the parallelism of these faces, for the purpose of producing a wider and smoother seam, belongs to the category of mechanical skill.

Where one swage was described as having a beveled periphery, and the swage with which it operated as having "a corresponding beveled periphery," these terms import that the beveled surfaces were parallel.

Letters patent for an "improvement in machine for making tin cans," reissued to Christian Barry, October 6, 1868, are void for want of novelty.

(Before McKENNAN, J., Eastern District of Pennsylvania, April, 1872.)

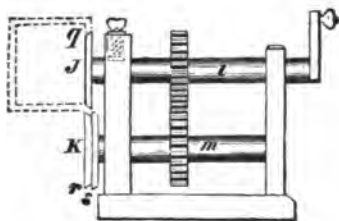
FINAL hearing on pleadings and proofs.

Suit brought on letters patent for "improvement in machine for making tin cans," granted to complainant December 3, 1867,

Barry v. Gugenheim.

and reissued October 6, 1868. A suit by the same complainant against Horace Everett, was argued at the same time.

The nature of the invention is sufficiently stated in the opinion, and will be readily understood with the aid of the accompanying engraving, in which J and K represent the swaging rollers, and the dotted lines, a can passing between them.



T. A. Burton, for complainant.

J. B. Gest, for defendant.

McKENNAN, J.

Both these cases present the same questions, and have been submitted upon the same proofs. They involve the consideration of only the third claim of the complainant's reissued patent. This claim is for part of a tool for closing the top and bottom, or the cover and the body of metal cans, so as to make them air-tight without the use of solder, and is in these words:

"3. The swage or die, J, having beveled periphery, *g*, and swage or die, K, having a corresponding beveled periphery, *r*, operating together, substantially as described, for the purpose specified."

The swages thus described are attached to the ends of horizontal shafts carrying cog-wheels working into each other, and having their bearing upon the standards of an upright frame. These shafts are made to rotate in opposite directions by a crank-handle attached to the upper shaft. By a preliminary process, the can-body and the top and bottom lids are prepared for the operation of the closing machine. The cylinder or can-body is flared outward, and the lids intended to close the ends of the can are countersunk to a depth corresponding with the flare of the

Barry v. Gugenheim.

body, with an extension of their rims so as to allow them to lap over on the outer side of the flared ends of the body. This extension is bent downward, forming a hook-shaped figure. The lid, thus prepared, is then put on the body, and the open seam thereby formed is placed between the swages of the closing-tool, and, by their rotation and compression, the flared part of the body and the hooked rim of the lid are brought into close contact, producing a tight, smooth joint, composed of three layers of the metal. It is the simple office of the closing-tool to make this seam, and it is effected by the inward and outward bevels of the periphery of the swages and their rotary compression of the parts to be brought into close contact. This is the essential purpose of the invention as described in the specification.

The invention of this tool is claimed by the complainant, and, as before stated, is the subject of the third claim of his reissued patent dated October 6, 1868. Its novelty is denied by the respondents; and, as the proofs sustain this denial, it is necessary only briefly to advert to this point of the defense.

The complainant's original application was filed October 25, 1867, and the earliest period to which the proofs carry back the date of his alleged invention is October or November, 1865. This is the import of the testimony by Julius Zabel, who says he made wheels for the complainant, like those in his exhibit No. 6, for closing boxes, in one or the other of these months ~~in~~ that year. Aside from the general statements of several witnesses, that sunken head-cans closed from the outside were well known for years before the complainant's alleged invention, and that the tool for thus closing them was, in principle and operation, like his, one machine at least has been exhibited in evidence which disproves the novelty of the complainant. It is the machine made by Henry Diedricks for McCoy & Snell. There is no dispute that Diedricks made such machine for McCoy & Snell; and in both the principle and result of its operation it can not be substantially discriminated from the complainant's. The most earnest contention has reference to the time when it was made and used. I do not propose to discuss in detail the evidence on this point, but only to state that it satisfactorily proves this machine to have been completed and worked in the early part of 1865, antedating the complainant's machine some nine months.

It is sought to invest the complainant's machine with the peculiar result of producing a wider and smoother seam than any of its predecessors was capable of producing, as the result of a want of parallelism in the beveled faces of its swages; and it is consequently urged that it is thereby to be distinguished as a novel invention from any other closing-machine. This suggestion seems to have originated with S. Lloyd Wiegand, an acute and intelligent expert, who was examined as a witness for the complainant, and elaborates it in his testimony. It is a sufficient answer to it to say that a difference in the taper of the bevels of the rollers is not stated or indicated in the complainant's specification as a part of his invention, or as essential, or even important, in producing the result proposed by him. Mr. Wiegand says it is shown in the model deposited in the Patent Office, but that will not supply the omission of a reference to it in the specification. If it is a peculiar feature of the complainant's machine, and he desires to appropriate it, he must have so informed the public by his specification, or he can not claim an exclusive right to it. The very object of the specification is to furnish the public with a description of the invention in such "full, clear, and exact terms" that any one skilled in the art to which it appertains may make, construct, and use it, and, without subtraction from or addition to the means specified, produce the precise result described by the inventor. It must, therefore, distinctly indicate the parts or features of a machine which are essential to the production of the proposed result. If they are not described, whether they relate to the construction or the mere adjustment of the machine, their use by others is not unlawful. If they are such as the experience of a mechanic skilled in the art would devise or apply in the operation of the machine (and to this category is to be assigned the peculiar adjustment of the rollers in the complainant's machine according to the clear import of Wiegand's testimony), the patentee can have no exclusive right to their employment.

But there is another reason why the suggested discrimination is unwarranted. It is inconsistent with the testimony of the specification. By the third claim the swage, J, is required to have a beveled periphery, *g*, and the swage, K, is to have a "corresponding beveled periphery, *r*." Can this mean anything else than that such bevel is to be made with the same inclination or

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angle? How can they be said to correspond unless their surfaces are parallel? But this is rendered clear by the drawing referred to and made part of the specification, in which the working faces of the rollers are shown to have a corresponding inclination and exactly parallel lines. It results, therefore, that deviation from parallel lines in the working faces of the rollers is not an appropriated feature of the complainant's machine, and that it can not for that reason be distinguished from the other machines exhibited in evidence.

The machine made for McCoy & Snell is constructed with an upper and a lower swage, correspondingly beveled, and is adapted to produce the same result as the machine described in the complainant's patent. As it was completed and worked before the complainant devised his, his alleged invention lacks essential elements of novelty.

The bills in both cases must, therefore, be dismissed with costs.

SAMUEL J. REEVES

vs.

THE KEYSTONE BRIDGE COMPANY ET AL. IN EQUITY.

The invention described in letters patent for an "improvement in the construction of columns, etc.," granted to S. J. Reeves, June 17, 1862, consists in a hollow shaft, so made as the result of a concentration in its periphery of the metal used in its construction, composed of at least three longitudinal segments of rolled iron, with flanges throughout their whole length, which are to be brought face to face, and through which they are to be fastened by bolts or rivets.

This invention is not anticipated by a column composed of two rolled plates of wrought-iron, without flanges, semi-octagonal in form, and secured by rivets passing through the whole length of its diameter, binding the plates firmly to distance-pieces interposed between them to spring them apart in the middle.

Nor by a column composed of a flat iron bar, with two other flat bars at

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right angles to it, connected by means of angle irons, which form a hollow space near the center of the connection.

A patentee, whose patent is assailed upon the ground of want of novelty, may show by sketches and drawings the date of his inceptive invention; and, if he has exercised reasonable diligence in "perfecting and adapting" it, and in applying for his patent, its protection will be carried back to such date.

In a race of diligence between rival inventors, the one who first perfects an invention and embodies it in a distinct form is entitled to a priority.

He is entitled to priority of right to a patent who first reduces his invention to a fixed, positive form, adapted to practical use.

Reasonable diligence in "perfecting and adapting" an invention is essential to the efficacy of a claim against the patent of an independent though subsequent inventor.

Illustrative drawings of conceived ideas do not constitute an invention; and unless they are followed up by a seasonable observance of the requirements of the patent laws, they can have no effect upon a subsequently granted patent to another.

Where A., in 1860, illustrated his idea of an invention by a pencil sketch, which was laid aside and subsequently lost, and did nothing further with the invention for five years, while B., an independent inventor, took out a patent for the invention in 1862: *Held*, that A. had not "perfected and adapted" the invention in 1860; and that, by reason of his long-continued remissness, he lost any inchoate right he might have had to priority.

To anticipate an invention by a prior publication under the patent law, it is necessary that there shall be, first, a description of the alleged invention; second, that it shall be contained in a work of a public character, and intended for the public; and, third, that this work was made accessible to the public, by publication, before the discovery of the invention by the patentee.

While the intended circulation of a book of a public nature may be presumed from its being put into print, it does not follow that a manufacturer's catalogue was made accessible to the public as soon as it was printed, or that it was actually published at all. The fact of publication must, therefore, be proved by evidence independent of the imprint.

Whether an illustration by drawing, unaccompanied with verbal description, is such a prior description as would defeat a patent, within the intent of the clause of the statute relating thereto, may well be denied on authority of *Seymour v. Osborne*, 11 Wall. 516.

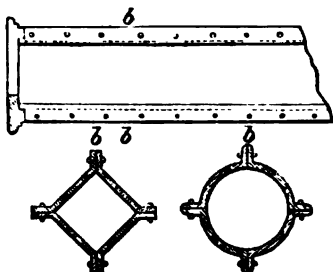
(Before McKENNAN, J., Eastern District of Pennsylvania, April, 1872.)

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FINAL hearing upon pleadings and proofs.

Suit brought upon letters patent for an "improvement in the construction of columns, shafts, braces, etc.," granted to complainant, June 17, 1862.

The points and the proofs are sufficiently indicated in the opinion.



The nature of the invention will be readily understood from the description in the opinion, in connection with the accompanying engraving.

R. C. McMurtrie, F. Sheppard, and George Harding, for complainant.

Charles B. Collier and Theo. Cuyler, for defendants.

McKENNAN, J.

The respondents do not deny the making and use of the column described in the complainant's patent. They deny that he was the first and original inventor of the invention claimed by him, and allege that his patent is invalid. This allegation rests upon the following specifications:

1. That the invention was originally made by Jacob H. Linville and John L. Piper.
2. That it was described in the *Allgemeine Bauzeitung* for September, 1861.
3. That it was illustrated by a drawing in the Dreyfuss Album, bearing the imprint of 1861.

To test the defensive sufficiency of this allegation, the nature and peculiarities of the invention must first be exactly understood.

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They are stated in general terms in the patent. The patent is dated June 17, 1862, and is for an improvement in the construction of columns, shafts, braces, etc. The invention is thus described:

"I use three or more wrought-iron bars, similar to those marked *a, a, a, a*, in the annexed drawing, to which reference is hereby made, of such shapes and dimensions, so that when arranged together, in the direction of their length, and fastened by rivets or bolts, *c*, through their flanges, *b*, they shall form a hollow shaft or column." And the patentee claims: "The uniting together three or more pieces of wrought-iron, made with flanges, in the direction of their length, so that they shall form a column or shaft, to be used as posts, and also as braces or compressive chords, in the construction of buildings, bridges, piers, or other structures."

The peculiar features of this column are, that it is composed of not less than three longitudinal segments or bars of wrought-iron; that the edges are flanged throughout their whole length; that, when they are brought together, the flanges are brought face to face; and the unity of the column is secured by bolts or rivets passing through these flanges at short intervals.

Its distinguishing advantages are, that by using three or more pieces, each can be more easily and cheaply rolled; that by increasing the number of pieces, a post of any diameter, and any reasonable length, and of varying thickness of metal, can be made in an ordinary rolling-mill as readily and cheaply by the pound as posts of small diameter; that they can be handled by workmen and put together with greater facility and with the ordinary mechanical appliances; that the material embodied in it is concentrated in its periphery, thereby increasing its diameter, and consequently its strength; and that the flanges serve as buttresses, practically extending its diameter, and giving it additional strength and power of resistance.

A hollow wrought-iron column does not constitute the patentee's invention; but it consists in a hollow shaft, so made as the result of a concentration in its periphery of the metal used in its construction, composed of at least three longitudinal segments of rolled iron, with flanges throughout their whole length, which are to be brought face to face, and through which they are to be fastened by bolts or rivets. This whole organization makes up the distinctiveness of the column, and is necessary to secure the ad-

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vantages in manufacture and efficiency which are claimed to belong peculiarly to it.

Under the proofs in this case, and aside from the specific objections hereafter to be noticed, it is hardly disputable that such a post is both novel and useful. Its utility is not contested, but its novelty is denied upon the several grounds before stated, which are now to be considered :

I. The invention is claimed by Linville and Piper, two of the respondents. On January 14, 1862, a patent was granted to J. H. Linville for an improvement in iron truss-bridges, which is described as partly consisting in a "novel construction of the posts of wrought and cast iron." This post is composed of two rolled plates of wrought-iron, semi-octagonal in form, secured by rivets passing through the whole length of its diameter, or by bands shrunk around it, binding the plates firmly to distance pieces interposed between them at suitable distances to spring them apart at the middle, and terminating in cast-iron bases and capitals. In the second claim of his specification, the patentee, therefore, very properly described his post as "composed of two wrought-iron plates or bars, *a, a* ; distance pieces, *b, b* ; and rivets, *J, J* ; or their equivalents, and cast-iron bases, *L, L* ; and capitals, *O, O* : the whole combined as herein specified."

It must be observed that the specification does not indicate the form of the post as an appropriated or distinctive feature of the invention. The shaft is composed of two rolled-iron bars, but that it must be hollow is an inference merely from the description. In comparing the invention with others, it must be considered as the product only of the elements which the patentee has indicated as necessary to give it its distinctive character. While, therefore, it may be constructed upon the principle of expanding the metal from the center toward the periphery, yet the special mode in which this principle is embodied in it, and is made practically available, constitutes its patented peculiarity.

Treating it, then, as the patentee himself does—not as a technical combination, but an organized unit, composed of the enumerated constituents, I think it is essentially distinguishable from the complainant's post. They are alike only in this, that neither is solid, and both are made of rolled-iron plates. In every other material point they are unlike. This dissimilarity consists, first,

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in the number of pieces of which the column is composed ; second, in the use or absence of flanges to these pieces ; third, in the mode of uniting or fastening the several pieces of the columns together ; and, fourth, in keeping the pieces in a straight line, and therefore parallel to each other, or forming them into curves by swelling the post in the middle. That these differences are essential is apparent from Mr. Linville's specification, in which he describes plates without flanges, their number, the mode of fastening them together, and their being sprung apart at the middle, as component and therefore material constituents of his organized post.

But it is unnecessary to enlarge upon this. Any other hypothesis is inconsistent with the patentee's acts. His patent imports that he was the sole inventor of the post therein described. But in 1865, in conjunction with Mr. Piper, he applied for and obtained a patent nominally for improvements in his post of 1862, but really changing its fundamental organization, and seeking to fix its invention in 1860, and, in fact, describing and appropriating the distinctive features of Reeves' post, which had been patented three years before. Not only does this show that the post in question was not an improvement of which the post of 1862 was the basis, and that the patent of that year was not regarded as expansive enough to embrace it, but it is, in fact and in law, an impressive disclaimer of his right to make an exclusive appropriation of it.

It is vigorously urged that although the patent of 1865, to Linville and Piper, is subsequent in date to Reeves, the post described in it was invented in 1860, and that they, therefore, anticipated him. It is in evidence, by several witnesses, that, in 1860, Linville and Piper were engaged together in getting up plans for a proposed railroad bridge over the Schuylkill, near the arsenal at Philadelphia ; that sketches of various forms of posts were made, among them those described in the patents of 1862 and 1865 ; that all the forms thus delineated were rejected, except the one described in the patent of 1862, which was adopted for the construction of the posts in that bridge ; that the sketches of the posts described in the patent of 1865 were preserved for a time, but were lost ; that no post of that description was made by the patentees until after the date of that patent ; and, in fact, that nothing

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beyond the making of the sketches was done to embody or carry out the alleged invention until the patent was applied for.

Will these sketches carry back the date of the invention to the time when they were made, and thus give the patentees priority over the complainant or invalidate Reeves' patent? There is no doubt that Reeves was an original inventor of the post claimed by him. It was the product of his own reflections and mechanical knowledge. He is presumed to be the first inventor of the thing patented by him, and this presumption is in no wise impaired by the subsequent grant of a patent to another for the same thing. The effect of the sketches referred to, upon his rights, must therefore be determined without reference to the patent of Linville and Piper.

✓ A patentee, whose patent is assailed upon the ground of want of novelty, may show, by sketches and drawings, the date of his inventive invention, and, if he has exercised reasonable diligence in "perfecting and adapting" it, and in applying for his patent, its protection will be carried back to such date; and in a race of diligence between rival inventors, the one who first perfects an invention, and embodies it in a distinct form, is entitled to priority; but can this be accorded to one who has conceived the idea of an invention, and has sketched it on paper, but has done nothing more in reference to it for a period of five years, as against the patent of an independent though subsequent inventor? Reasonable diligence in "perfecting and adapting" the invention is essential to the efficacy of such a claim. ✓ This is the express condition prescribed by section 15 of the patent act of 1836, as held by Mr. Justice Story in *Reed v. Cutter*, 1 Story, 590. Independent of this provision, he is entitled to priority of right to a patent who first reduces his invention to a fixed, positive form, adapted to practical use. Unless, therefore, the speculations of Linville and Piper, in 1860, had attained the perfection of a completed and patentable invention, their inaction until 1865 would clearly deprive them of the benefit of section 15.

✓ Can an invention be considered as "perfected and adapted," which has reached only the maturity of an illustration on paper? In *White v. Allen*, 2 Fisher, 446, Judge Clifford says:

"Original and first inventors are entitled to the benefit of their inventions if they reduce them to practice, and seasonably com-

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ply with the requirements of the patent laws in procuring letters patent for the protection of their exclusive rights. While the suggested improvement, however, rests merely in the mind of the originator of the idea, the invention is not completed within the meaning of the patent laws; nor are crude and imperfect experiments sufficient to confer a right to a patent; but, in order to constitute an invention in the sense in which that word is employed in the patent act, the party alleged to have produced it, must have proceeded so far as to have reduced his idea to practice and embodied it in some distinct form. *Gayler v. Wilder*, 10 How. 498; *Parkhurst v. Kinsman*, 1 Blatch. 494; Curtis on Patents, sec. 43. Mere discovery of an improvement does not constitute it the subject matter of a patent, although the idea which it involves may be new; but the new set of ideas, in order to become patentable, must be embodied into working machinery and adapted to practical use. *Sickles v. Borden*, 3 Blatch. 535."

And, in *Ellithorpe v. Robertson*, Law's Dig. 428, section 48, 2 Fisher, 83, Judge Ingersoll said:

"The making of drawings of conceived ideas is not such an embodiment of such conceived ideas into practical and useful form, as will defeat a patent which has been granted."

Equally strong is the language of Mr. Justice Nelson in *Winans v. Harlem R. R. Co.*, Franklin Journal, 3 ser., vol. 61, p. 322, where he says:

"The circumstance that a person has had an idea of an improvement in his head, or has sketched it on paper, has drawn it, and then gives it up, neglects it, does not, in judgment of law, constitute or have the effect to constitute him a first and original inventor."

Numerous other cases affirm the same doctrine; and it must, therefore, be considered as an established rule that illustrative drawings of conceived ideas do not constitute an invention, and that unless they are followed up by a seasonable observance of the requirements of the patent laws, they can have no effect upon a subsequently granted patent to another. Applying this rule to the present case, the conclusion is unavoidable that Linville and Piper had not "perfected and adapted" an invention in 1860, and that, by reason of their subsequent and long-continued remissness,

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they lost any inchoate right they might have had to priority over Reeves.

But we are not left to speculation to determine the actual character of what was done by Linville and Piper in 1860. They were induced to make sketches of different forms of wrought-iron posts by the proposed erection of the arsenal railroad bridge, and their object was to devise and present the form of post best adapted to that structure. What was done, very satisfactorily appears in the testimony of Edward Crueger, a witness for the respondents, who was Mr. Linville's draughtsman at the time. He says:

"Mr. Linville showed and sketched for me different forms of wrought-iron bars or pieces for posts; any number of them and all shapes, of angle-iron, of T-iron, of round iron, of oval iron. I can't remember the number of shapes he gave me; they were too many. He had two pieces in some posts and four in others. Finally he (Linville) rejected all the other pieces except these pieces, which we employed at the Schuylkill bridge."

And the testimony of Linville and Piper is in substantial accord with this. Can there be any doubt, in view of this testimony, that the efforts thus described were experimental merely as to all the forms of post except the one which was adopted? The proofs show further, that the sketch of the post, then rejected, but now in controversy, was lost, with other sketches, in 1863, and that it was not reproduced until 1865, when steps were taken to obtain a patent. In the meantime Reeves had invented, "perfected and adapted," and obtained a patent for his post, and was engaged in its manufacture and introduction into public use. In point of fact, then, all that Linville and Piper did before the date of Reeves' patent can only be regarded in the light of experiment, which they abandoned, and did not take up again until the lapse of more than two years after his patent was issued.

Whether the sketches made are to be considered as an incomplete invention, not prosecuted with the required diligence, or as an experiment actually abandoned, they can not impair the right of Reeves to be treated as the first inventor.

II. The publication of the description and plates in the *Allgemeine Bauzeitung* preceded Reeves' invention. It is a public work, and describes the post illustrated by the accompanying

drawing "in such full, clear, and exact terms that any one skilled in the art to which it appertains could construct it." If Reeves' post would be the product of this description his patent can not be sustained.

The post described in this work is cruciform. It consists of a flat iron bar, which forms the main part of the column, with two other flat bars at right angles to it, connected by means of peculiarly shaped angle-irons, so that in the center of the connection a hollow space is formed, which produces an increase of the rigidity of the column, while the section remains which is necessary for carrying the load. Now it is apparent that the single flat bar is prescribed as the main part of the column relied upon to bear up the weight imposed upon it; that the two other bars are designed to furnish it lateral support; and that the angle-irons, while they serve the purpose of connection, are further auxiliary to it by giving it additional stiffness. This, I think, is the fair interpretation of both Mr. Bonzano's and Mr. Both's translations. Following the description, then, all these bars, or at least the single one, must necessarily be incorporated in the structure. To omit them would be to discard the part prescribed as necessary to resist the compressive strain upon the column, and, therefore, to abandon the vital principle of its construction. Indeed, all these constituents must be embodied in it to fulfill the fundamental requirements of the text.

Now, a column thus constituted is not the column of Reeves. It differs from it in the necessary elements which compose it, and in the principle of its construction and operation. Four angle-bars and at least one flat cross-bar must be incorporated in its structure; while in the Reeves column three flanged bars, without any cross-bar, are required, and as many more as are desired may be employed. The latter is entirely hollow, and must be made so to conform to the fundamental conditions of its construction. It corporealizes the principle that increase of diameter secures additional power of compressive resistance, and, therefore, that the metal used in its construction must be thrown out as much as possible from its center and concentrated in its periphery. Its resisting power is located exclusively in its circumference. Such a condition is certainly not indicated in the German description of

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that post. As before stated, the bar which traverses its diameter is an indispensable part, and as it is described as subject to the greatest compressive strain, corresponding strength for resistance must be provided in the diameter of the post. This is a vital diversity, so that the two posts can only be identified by confounding the distinct principles embodied in each of them.

In Reeves' specification it is said, "the stiffness and strength of columns made in this manner may be increased at a very moderate expense by setting plain bars of iron between the flanges of the bars, *a, a, a, a*, and riveted to them, and extending outward from the center; thus, in effect, increasing the diameter of the column." Hence it is argued that a post thus constructed is identical with the post described in the German work. To reach this conclusion, the clause quoted must be construed as directing the extension of the bars set between the flanges outwardly from the center as the beginning, and not outwardly from the flanges. The advantages contemplated are increased stiffness and strength of the column, and it is proposed to secure them by an increase of its diameter only in the effect due to an extension of the interposed bars. An increase of actual diameter by an enlargement of the circumference to the extent of the thickness of the bars was not designed, because that would be due only to the interposition of the bars between the flanges—not, in any sense, to their extension in either direction beyond them. An inward extension of the bars might impart increased strength to the column, but it certainly, would not lengthen its diameter. As interior braces, the extensions would doubtless give additional stiffness to the column; but that would involve a distribution of material in conflict with the general design of the patentee and the tenor of his specification, and would secure it by an agency different from the one expressly prescribed by him. An operative increase of the diameter, produced, not by an expansion of the periphery, but by an extension of the interposed bars, is what the specification contemplates. A cheap method of practically increasing the diameter without a corresponding enlargement of the whole circumference, is the suggestion. How is this to be attained? Solely by an exterior extension of the bars set between the flanges. When it is considered, then, that the effect of the extension only in increasing the diameter was contemplated, and that this will

not be produced by extending the bars wholly within the column, the specification must necessarily be taken to fix the flanges as the starting point, whence the bars are to extend outwardly, or away from the center.

III. The only remaining reference is the "Dreyfuss Album." It is a book of printed drawings, representing different forms of iron fabrics made by a Paris manufacturer, and bears the imprint of 1861. Under the head of "corners" is a drawing representing a transverse section of an iron column, corresponding with one of the figures referred to in the specification of Reeves. When this book was printed does not appear, otherwise than presumptively from the imprint on its title-page. When it was published or put in circulation does not appear at all, except that possession of it was obtained by the respondents after the institution of this suit.

Section 15 of the patent act of 1836—and it has been incorporated in the act of 1870—provides that a patent may be successfully opposed by showing that the thing patented "had been described in some public work anterior to the supposed discovery thereof by the patentee." It is obvious that this provision requires, first, a description of the alleged invention; second, that it shall be contained in a work of a public character and intended for the public; and, third, that this work was made accessible to the public by publication before the discovery of the invention by the patentee.

Whether the work in evidence is a public or only a private work, intended merely for private circulation, is fairly a disputable question. It contains an illustration, by a drawing, of the thing intended to be represented, without verbal description; and whether this is a description at all, or such a one as the act contemplates, may well be denied on the authority of *Seymour v. Osborne*, 11 Wall. 516, and the cases there referred to with approval. But it is unnecessary to decide these questions, as the proof is deficient in another essential particular: it is not shown that the work was published before the date of the complainant's patent. This must be directly proved. It is not deducible from the imprint on the title-page. That the work was then printed may be inferred from this imprint; but when it was put in circulation or offered to the public is a distinct fact, which must be

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proved independently. The intended circulation of a book of a public nature may be presumed from its being put into print; but it does not follow that a work, such as the one in question, was made accessible to the public as soon as it was printed, or that it was actually published at all. As it does not appear that this book was published before the patentee's invention, as evidence it is altogether inconsequential.

The complainant is entitled to an allowance of the prayers of his bill, and a decree will, therefore, be entered for a perpetual injunction and an account, with costs.

 THE KEYSTONE BRIDGE COMPANY

vs.

THE PHOENIX IRON COMPANY ET AL. IN EQUITY.

Where the form of the lower chords in truss-bridges constituted the essence of the claim of the patent, the bars being therein described as "*wide and thin*," and defendant had only made bars *round* in section: *Held*, that complainant was not entitled to recover.

The claim of the patent being for "*the use*," in truss-bridges, of chord-bars constructed in the manner described, the method of making the same being disclaimed, and it appearing that the defendants had only *made and sold* chord-bars: *Held*, that they only did what they had a legal right to do, and did not thereby assume any responsibility for the wrongful acts of others.

(Before McKENNAN, J., Eastern District of Pennsylvania, April, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought on two several letters patent, for "improvements in iron truss-bridges, one granted to J. H. Linville, assignor to himself and J. L. Piper, January 14, 1862, and the other to the said Linville and Piper, as joint inventors, October 31, 1865.

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Chas. B. Collier and Theo. Cuyler, for complainant.

R. C. McMurtrie, F. Sheppard, and Geo. Harding, for defendants.

McKENNAN, J.

The opinion just read in the case of *Reeves v. The Keystone Bridge Company* renders it unnecessary to consider the alleged infringement of the second claim of Linville's patent of 1862, and the first claim of the patent of Linville and Piper of 1865. The only claims of these patents which it is necessary to notice relate to the lower chord-bars of truss-bridge structures. It is in the use of these bars that the infringement is alleged to consist.

The first claim of the patent of 1862 is for the construction of the lower chords of truss-bridges of series of eye-bars, wide and thin, drilled eye-bars, applied on edge between ribs on the bottom of the posts, etc. The form of the bars is of the essence of the claim (*wide* and *thin* bars only are claimed), and, as the only proof of infringement is that the respondents made eye-bars *round* in section, which were used in the La Salle bridge to perform the functions of tension-chords, the patent of 1862 may be dismissed from further consideration.

The third claim in the patent of 1865 is for "the use, for the lower chords of truss-frames, of wide and thin rolled bars, with enlarged ends formed by upsetting the iron when heated by compression into molds of the required shape." As the respondents are proved to have made only *round* chord-bars, which were used in the La Salle structure, it may well be doubted that they have infringed this claim; and especially as they are not employed or adapted to give vertical support to the roadway, which is an important function of the complainant's lower chords, and is the reason of their peculiar conformation. But, waiving this and assuming that the enlarged ends of the respondents' chord-bars are formed as described in the claim, it is not to be doubted that the patent is limited to the use of the chords in bridge structures. This is distinctly set forth in the specification, where it is stated that "we do not claim the upsetting of bars in the manner described, nor any peculiar mode of performing the operation, but merely the *use* of chord-bars for bridges, the ties of which are

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thus formed so as to give additional strength to the bar where it is so much needed." The exclusive right to make chord-bars in any mode is distinctly disclaimed; only their use, when formed as described, is appropriated by the patentees and forbidden to others. They, in effect, declare that any one may lawfully make the bars, and that no encroachments upon their rights is committed until the bars are used by being put into a bridge.

Now, the respondents are iron manufacturers, and it is shown that the bridge at La Salle, Illinois, was built by Kellogg & Clark, who obtained the iron for it from the respondents, and that the bottom chords used in it were like those claimed by the complainants. This is all the proof of infringement, and I think it falls far short of fixing any accountability upon the respondents. They made the bars, but did not use them—Kellogg & Clark did that. They did only what they had a legal right to do, and did not thereby assume any responsibility for the wrongful acts, or become involved in the unlawful purposes of others. Nor can this responsibility be imposed upon them, because privity with a wrong-doer is not necessarily to be inferred from the exercise of a legal right.

My attention has been called to the opinion of Judge Woodruff in the case of *Wallace & Sons v. Holmes and others*, 9 Blatch. 65 (ante, 37). The case is a peculiar one. It involved the infringement of a patent for an improved lamp-burner, in combination with a chimney, where the respondents made and sold the burner alone, leaving the purchaser to supply the chimney, without which such burner is useless; and it was held that all who were engaged in the manufacture of the different parts of the combination, and using it thereafter, were infringers, for the reason that "all are *tortfeasors* engaged in a common purpose to infringe the patent, and actually, by their concerted action, producing that result." Now, can it be doubted that, if the respondents there had been licensed by the patentee to make and sell his improved burner, and this was all they did, the result would have been different?—and yet this is substantially the attitude of the respondents here. By clear implication, the patentees have authorized the respondents to make and sell the chord-bars described in their patent, and have declared that only those who use them as lower chords in bridge

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construction can be called to account for infringement. Having, therefore, exercised the conceded rights of manufacturers only, the respondents can not, by any strained inferences, be implicated in the wrongful acts of others.

The bill must, therefore, be dismissed, with costs.

 CHARLES G. JOHNSEN

vs.

E. VICTOR FASSMAN ET AL. IN EQUITY.

The fact of abandonment must result from the intention of the patentee, expressly declared or clearly indicated by his acts.

The issue of letters patent by the Patent Office is *prima facie* evidence that there has been no voluntary abandonment of his invention to the public, by the inventor, either before or after his application for letters patent.

The rule to be deduced from the authorities on the question of abandonment after application is, that, after the issue of letters patent, the abandonment must be shown to be positive, actual, and intentional, by some act or declaration of the inventor, or by such gross *laches* as indicate, unmistakably, an intention to abandon the invention to the public.

Where nothing was relied upon to defeat complainant's patent but the inventor's delay in prosecuting his application for the patent, his application having been finally rejected by the commissioner April 11, 1857, and not appealed until August 16, 1866, during four years of which time the Patent Office was closed to him, by reason of his residence in a state that was in rebellion: *Held*, that no direct or implied abandonment was shown.

A patent relates back to the date of the application; and patents granted to other inventors during the pendency of such application, so far as they cover the same invention, are void, and are no protection to an infringer.

A cotton-bale tie, in which the lower edges of the transverse slots are provided with lips or flanges projecting downward at an angle with the

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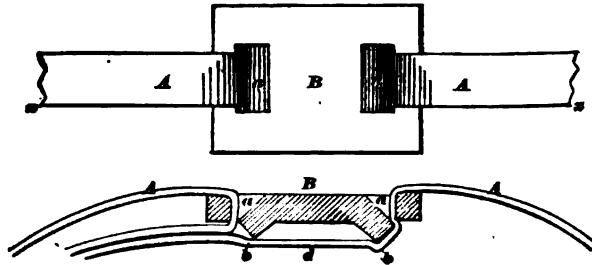
plane of the buckle, to prevent the end of the band from slipping, held to be infringed by a tie in which the slots are provided with toothed or serrated edges for the same purpose.

(Before Woods, J., District of Louisiana, April, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for an "improvement in cotton-bale ties," granted to complainant as assignee of Charles Swett, October 23, 1866.

The nature of the patented invention and of the alleged infringement are set forth in the opinion.



The above engraving represents the Swett tie in plan and in section. The end of the band, A, is passed through the slot, *a*, and bent backward. The other end, having passed around the bale, is thrust through the other slot, and under the projections, *b, b*, as shown at *d*; so that when the bale expands, as it is released from the press, the band is tightly gripped between the tie and the bale, or between the bale and the upper part of the band, and thus held securely. An illustration of the "alligator," or defendant's tie, will be found in the report of the case of *Cook v. Ernest*, ante, 396.

A. Phillips, C. Roselius, and S. S. Fisher, for complainant.

Lea, Finney & Miller, for defendants.

Woods, J.

This cause is submitted for final decree upon the pleadings and evidence.

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The object of the suit is to enjoin defendants from infringing upon an improvement in cotton-bale ties, which the complainant avers was patented to Charles Swett, October 23, 1866, and by whom all rights under said patent have been assigned to complainant.

The claim of Swett's patent was for "a new and improved fastening-block for securing metallic bands or hoops to cotton-bales," described thus: "A block of suitable size, either made by casting or stamping out of metal. In this block are formed two slots or holes parallel with each other across the block; the length of the slots is to be equal to the width of the hoops to be used. From the corner and inner edges of the slot, projections extend out obliquely beneath said slots, and nearly covering their lower openings."

After applying the bands as described in the specification, "then, when the bale is removed from the press, the elasticity of the cotton presses firmly against the ends of the hoops, and prevents them being withdrawn."

The answers of defendants allege, by way of defense, that, long before the date of the patent to Swett and of his assignment to complainant, Swett had abandoned his invention. They aver that the application of Swett for letters patent was made in the year 1856, and was rejected in the same year; and again, upon an amendment of specification, was finally rejected by the Commissioner of Patents, April 11, 1857, for want of novelty; that Swett acquiesced in the decision of the commissioner from that date until August, 1866; that from the date of the rejection of his application, in April, 1857, down to August, 1866, Swett took no steps whatever to obtain letters patent for his said invention, but acquiesced entirely in the rejection of his application, and abandoned his pretension to a patentable invention; and that, in the meantime, many different forms of blocks, plates, and buckles with slots for the insertion of the hoop or band, and various devices to hold and fasten the ends of bands together, with the aid of the expansive pressure of the cotton in the bale, were in notorious use; that on April 18, 1865, letters patent, embodying those general features, were issued to defendant, E. Victor Fassman, and were reissued on an amended specification on December 11, 1866, relating back, however, to the said April 18, 1865.

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They allege that the appeal to the Supreme Court of the District of Columbia was taken by Swett; but aver that it was not until the year 1866, long after the application of Swett had been abandoned, and that the effect of the decree of that court was merely to overrule the decision of the Commissioner of Patents, rejecting said application for want of novelty.

The answer also denies any infringement of the complainant's patent by the defendants, or any of them, so that the only questions presented by the pleadings are:

1. Did Swett abandon his invention before the issue of his letters patent? and,

2. Have the defendants infringed?

The facts as to the delay between the application of Swett, April 23, 1856, and the issue of letters patent to him, October 23, 1866, are correctly stated in the answer. Defendants rely upon these facts as proof of abandonment, and offer no other evidence. There is no proof of actual abandonment. Are these facts sufficient evidence to support the defense of abandonment? The fact of abandonment must result from the intention of the patentee, expressly declared or clearly indicated by his acts.

In the case of *Adams v. Jones*, 1 Fisher, 530, Mr. Justice Grier said:

"By the application filed in the Patent Office, the inventor makes a full disclosure of his invention, and gives public notice of his claim for a patent. It is conclusive evidence that the inventor does not intend to abandon it to the public. The delays afterward interposed, either by the mistakes of the public officers or the delays of courts, where gross *laches* can not be imputed to the applicant, can not affect his rights."

In the case of *Dental Vulcanite Co v. Wetherbee*, 3 Fisher, 87, Mr. Justice Clifford says:

"The next objection to be noticed is that the inventor abandoned his invention, because his application for a patent was made April 12, 1855; was rejected February 6, 1856; and because he did not appeal at all or make any new application until March 25, 1864. Actual abandonment is not satisfactorily proved, and it is not possible to hold that any use of the invention, without the consent of the inventor, while his application for a patent was pending in the Patent Office, can defeat the operation of the

letters patent after they are duly granted. Such delays are sufficiently onerous to a meritorious inventor, if his patent is allowed to have full operation after it is granted; but it would be very great injustice to hold that any delay which the inventor could not prevent, should, under any circumstances, affect the validity of his patent."

So, in the case of *Rich v. Lippincott*, 2 Fisher, 1, Mr Justice Grier charged the jury as follows:

"If you find that the application in 1836, renewed in 1837, was for the same subject-matter now patented, and if such application was not withdrawn by Fitzgerald, but the delay was caused by the conduct of the Commissioner of Patents in refusing to grant the patent for the same invention since patented, then Fitzgerald should not be considered to have abandoned his invention to the public, unless he abandoned it before 1836, which is not contended."

In this case the patent was issued in 1843.

In *McMillin v. Barclay*, ante, 189, the question is asked:

"Upon what reason should the inventor be regarded as having given up his invention to the public, merely because a public officer has repeatedly denied his application for a patent, and the recognition of his right has thus been denied for years, when he was powerless to prevent it?"

The issue of the letters patent by the Patent Office is *prima-facie* evidence that there has been no voluntary abandonment of his invention to the public by the inventor, either before or after his application for letters patent.

The rule to be deduced from the authorities on the question of abandonment after application for letters patent, we think to be this: that after the issue of letters patent the abandonment must be shown to be positive, actual, and intentional by some act or declaration of the inventor, or by such gross laches as indicate unmistakably an intention to abandon the invention to the public. Nothing is relied on in this case but the delay of the inventor in taking his appeal from the decision of the Commissioner of Patents to the Supreme Court of the District. The application of Swett was finally rejected, on amended specifications, April 11, 1857. He appealed on August 16, 1866. Here was a delay of nine years and four months. In the case of *The Dental Vul-*

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canite Company v. Wetherbee, supra, there was an interval of eight years between the rejection by the Patent Office and the appeal. That was not considered by the distinguished judge who decided that case as sufficient evidence of abandonment. But in the case on trial, if we were disposed to hold that a delay of nine years and over was sufficient evidence of abandonment, unless accounted for, there is a fact disclosed by the record which would relieve Swett of the imputation of gross laches—that is, that he was a citizen of one of the states in revolt during the late rebellion, to wit, the State of Mississippi; so that, for four of the nine years of the interval between the rejection of his application and his appeal, the Patent Office was closed to him. Bearing this fact in mind, we are clear that no direct or implied abandonment is shown by the record in this case.

The fact that between the date of the application of Swett and the issue of his letters patent, other letters patent were issued to other inventors for substantially the same invention, gives them no right to infringe on Swett's patent. His patent relates back to the date of his application: any patent for the same invention granted to another inventor, while his previous application was pending, so far as it covers Swett's invention, is void, and is no protection to an infringer.

The next, and only other question presented for determination, is the question of infringement. An inspection of the models of the buckles used by the defendants clearly shows that they all embody the principle and infringe on the Swett patent. The only tie about which I have had any doubt is known as the alligator tie. This tie consists in a buckle, the opening or slot of which has serrated or toothed edges, which, when the pressure is removed from the bale, prevents the slipping of the end of the tie. There are no lips or flanges turned down at an angle with the plane of the buckle, as in the Swett patent. The serrated edges in the alligator tie are substituted for the flange in the Swett tie.

The application of Swett was first rejected by the Patent Office on the ground of want of novelty—the commissioner deciding that it was substantially identical in form and effect with the common sliding clasps or buckles used on hat-bands, suspenders, har-

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ness, etc. Mr. Chief Justice Cartter, in his opinion reversing the decision of the commissioner, says :

"Inspection of the device satisfies my judgment that this conclusion is erroneous. The contrivance is neither buckle nor sliding-clasp, although performing more or less the office of each, and for the purpose designed, more effectual than either. The clasp and buckle are both without the flange that constitute the distinguishing excellence, enabling it to hold the contents of the bale by the very process exerted in escape. It embraces, also, the advantage undisclosed in either clasp or buckle, viz., tying itself up to its work through the agency of force exerted against it—a function employed by neither clasp nor buckle.

The teeth in the alligator tie perform the same function as the flanges in the Swett tie, and on the same principle, viz., "they hold the contents of the bale by the very process exerted in escape ; it ties itself up to its work through the agency of force exerted against it." It is the same device, acting on the same principle, performing the same function, only modified in form. We think it to be an infringement on the Swett patent, now the property of complainant.

Let there be a decree for complainant, enjoining defendants, as prayed in the bill, and let the case be referred to a master to take an account of profits.

THE STEAM CUTTER COMPANY

vs.

CHARLES SHELDON ET AL. IN EQUITY.

W., the patentee of a machine for quarrying stone, assigned his patent to C. Before that, W. had made a written agreement with S., transferring to S. and his assigns "the right to use the patented invention, to the extent of one machine," in the quarry of S., "and in no other place," to the full end of the term of the patent; and further agreeing that S. should have the privilege of using additional machines in such

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quarry, and not elsewhere, on making certain specified gross payments to W. The agreement further provided that W. should superintend the construction of at least one machine, and be compensated therefor by S. for days' labor, S. to pay for constructing the machine. One machine was built, and paid for by S., and put to work in the quarry of S. S. used it for a time and then ceased, for more than two years, to use it; but, during the interval, repaired it. During the same interval, it was used by R., in a different quarry, with the knowledge of S. Afterward, S. put into use, in his quarry, five machines got up by one L. C. notified S. that the machines of L. infringed the patent of W. S. had taken from L. an agreement by L. to defend the machines of L. against claims under the patent of W. S., after this suit was brought, tendered to C. and to W. money, as and for the payment for the right to use five additional machines, under the agreement with W. *Held:*

1. That S. acquired, by the agreement with W., the right to manufacture, as well as the right to use, the machines mentioned in it, subject to its conditions.
2. That S. acquired the right to repair and rebuild the one machine, so as to have and keep in use one machine in his quarry during the life of the patent.
3. That S. was liable for the profits from the use of the one machine by R., and for the damages thereby sustained by C.
4. That S. did not forfeit his rights in respect to the one machine, by allowing it to be used by R. in another quarry.
5. That S. was a naked infringer in using the five machines of L., and could not defeat the right of C. to recover in this suit, in respect of such use, by the tender above mentioned.
6. That S. had abandoned and forfeited all right, under the agreement with W., in respect of any additional machines, beyond the one machine.
7. That S. must be enjoined from using any but the one machine first put into use, and be decreed to pay all profits made by him by the use of the five machines, or by the use of the one machine by R., and all damages sustained by C. from both of such users.

(Before WOODRUFF and SMALLY, JJ., District of Vermont, March, 1871.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for "stone-channelling machines," granted to George J. Wardwell, and assigned to complainants.

The facts are fully stated in the opinion.

Steam Cutter Co. v. Sheldon.

John Prout and Chauncey Smith, for complainants.

James N. Edminster and Edward J. Phelps, for defendants.

WOODRUFF, J.

This is a suit in equity, brought to restrain the defendants from infringing certain patents for a stone-channelling machine and machinery for cutting and quarrying stone and marble, issued to George J. Wardwell, patentee, and reissues granted to the complainants, his assignees, and praying for a discovery and an account of the gains and profits accrued to the defendants from alleged past infringements and for damages. Although the answer of the defendants put in issue the novelty of the alleged inventions and the exclusive title of the complainants, and denied that the alleged infringing machines used by them (which were made by the Windsor Manufacturing Company, and were called Lamson machines) were a violation of the rights of the complainants, and some testimony was comprised in the proofs, bearing on those questions, neither of these denials was insisted upon when the cause was brought to a hearing. The decision of this court in *The Steam Cutter Company v. The Windsor Manufacturing Company and Ebenezer G. Lamson*, which affirmed the validity of the patents, and that the like machines were infringements, was accepted by the defendants' counsel, and the defense was rested solely on the agreement made by the defendants, on June 1, 1864, with the patentee, Wardwell, to be presently mentioned, and the acts and rights of the defendants under that agreement.

This agreement was made before the assignment by Wardwell to the complainants, and it recited that Wardwell had obtained letters patent for certain improvements in machines for cutting stone, and that Sheldons & Slason were desirous of obtaining an interest therein; and the agreement witnessed that, in consideration of one thousand dollars paid by the defendants, the said Wardwell assigned, transferred, and set over to the said Sheldons & Slason, their heirs, executors, and assigns, "the right to use the said patented invention, to the extent of one machine, in their quarries at West Rutland, and in no other place or places,
* * * the same to be had and held by the said Sheldons & Slason, for their use and behoof, and for the use and behoof

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of their heirs, executors, and assigns, to the full end of the term for which said letters patent are or may be granted." Wardwell further agreed that the said Sheldons & Slason, their heirs, etc., should have the privilege of using all improvements that he might add to said patented machine, the same to be applied and used on the said machine, in their quarries at West Rutland, and in no other place or places. The instrument then provided: "And I further agree to and with the said Sheldons & Slason, their heirs, executors, and assigns, that they shall have the privilege of using additional machines, upon the conditions herein-after mentioned, to wit, one additional machine upon the payment of two hundred and fifty dollars, a second additional machine upon the payment of two hundred dollars, a third additional machine upon the payment of one hundred and fifty dollars, a fourth additional machine upon the payment of one hundred dollars, a fifth additional machine upon the payment of fifty dollars, and, upon the further payment of fifty dollars, any number of machines more than six; all of the above machines to be used on the quarry property now owned by the said Sheldons & Slason, at said West Rutland, and in no other place or places. I further agree to and with the said Sheldons & Slason, their heirs, executors, and assigns, that they shall have the privilege of using, on the above-named machines, all the improvements that I, George J. Wardwell, may add to said patented machine." Immediately before the execution of the foregoing, and in pursuance of the negotiation which followed the perusal thereof by the defendants, and at their instance and requirement, the following supplemental agreement was prepared, and the two were simultaneously delivered, that is to say: "Whereas, I have this day sold Sheldons & Slason the right to use machines for cutting stone upon their quarries, now opened or hereafter to be opened upon their quarry property in West Rutland (for full explanation, see sale of right, as executed this day); and it is further understood that I am to superintend the construction of at least one of the machines, in the best manner and at the cheapest possible way, the said Sheldons & Slason to pay for construction of same. I further agree to attend to starting of the machine upon their north quarry, so called, superintending the same until fairly and successfully at work, S. & S. to pay my board while attending to the same, and also a fair

compensation per day for each day's labor." The one thousand dollars stipulated in the agreement was paid by the defendants, and, immediately thereafter, Wardwell recommended the procurement of the first machine at a machine-shop in St. Johnsbury, with the proprietors of which he had previously had some negotiations in relation to the construction of machines, and a stipulation as to the terms on which they would build them. A machine was there built, the bill therefor was rendered by the machinist to Wardwell, the bill was paid by the defendants, and the machine was put in operation at the defendants' quarry in the fall of 1864 or the spring of 1865, the defendants, through Wardwell, procuring from Boston an engine wherewith to operate the machine. It was used for a short time in cutting one cut or channel of about forty feet in length, and was then removed by the defendants, under a conviction that, in that quarry, it could not be used to advantage, and it was not again used by them until the summer or fall of 1867, but repairs were made, and some new parts were substituted for old. During the year 1866, or in that year and early in 1867, as appeared in evidence, this machine was used, in a neighboring quarry, by the Rutland Marble Company; but, except by the fact of such use, and that the firm was aware of that fact, it did not appear that it was by the consent of the defendants, nor did it appear that they received any compensation therefor. Meantime, Ebenezer G. Lamson (claiming to be the inventor) and the Windsor Manufacturing Company had begun, and were carrying on, the manufacture of the infringing machines, called, in the litigation, the Lamson machines; and, in the summer or fall of 1867, and thereafter, the defendants purchased and put in operation, in their quarries, five of such machines. They were, at or about the same time, notified, on behalf of the complainants, that such machines were infringements of the Wardwell patents. They were forbidden to use them, and were apprised that the complainants would institute legal proceedings to restrain any willful and persistent violation of their rights under the said patents, and to recover damages therefor. To meet the exigency thus suggested, the defendants had already fortified themselves, by taking from the said Lamson and the Windsor Manufacturing Company, contemporaneously with their purchase,

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a special agreement, by which the parties last named agreed to defend the machine and apparatus sold by them, and fully protect the said Sheldons & Slason in the use and enjoyment of all so by them purchased; and, in case of any litigation involving the said Sheldons & Slason for such use, to assume the litigation and pay all damages and costs to which Sheldons & Slason might be subjected, and save them whole and harmless; and, in case of final adjudication against the right, then to take back the machines and rights granted, and repay the consideration, or so much thereof as should be just, equitable, and sufficient to make them whole in the premises. Thus fortified, the defendants, disregarding the notice from the complainants, persisted in the use of the Lamson machines. The complainants prosecuted their suit against Lamson and the Windsor Manufacturing Company, and, in November, 1870, commenced this suit against the defendants. Before putting in their answer, the defendants, having heard of the decision in the suit against their vendors, on December 9, 1870, tendered, unconditionally, to the complainants, and also to the said Wardwell, the sum of nine hundred dollars, "on account of their contract with the said Wardwell." which tender is set up, in the answer, as covering the amount which, by the terms of the agreement above stated, the defendants were to pay to entitle them to the use of five additional machines, and also interest thereon from the time such use was begun.

Upon these facts the claims of the parties arise, which were urged on the hearing. If there are any others which seem to us material, they will be adverted to in disposing of the case. The complainants insist that the agreement between Wardwell and the defendants conferred upon the latter only the right to use the Wardwell machine and the improvements he might make thereon; that such right to use was separate and distinct from the right to construct the machine for the purpose of use, and the agreement did not include the latter; that the defendants, therefore, could not procure machines (even though they had paid the money mentioned in the agreement) except from the patentee, or his assigns, or from some person authorized by him or them to construct machines; that the payment of the sums specified was a condition precedent to the right of the defendants to use any other than the first machine, which was manufactured under the

superintendence of Wardwell ; that the defendants, having paid for that first machine, had the right to use that, but had no right themselves to repair it, or to rebuild it by substituting new parts thereof ; that hence, in respect of the five machines purchased from the Windsor Manufacturing Company, the defendants are liable as *tort-feasors*, infringing the rights of the complainants, on two grounds : first, that they had no right to make, or procure to be made, any machines, except by the complainants, or by their consent or license ; and, second, that they not having performed the condition precedent, by the payment of the sums stipulated, they had no right to use the additional machines, by whomsoever made ; that, in respect of the first machine, they are now infringers, because, first, they have repaired and partially built it ; and, second, they have suffered it to be used outside of their quarry, and have so forfeited the license conferred by the agreement ; and, finally, that the conduct of the defendants, as shown by the evidence, establishes an abandonment of the agreement and a forfeiture of all rights under it, in such wise that it constitutes no defense to this suit, and the defendants could not, by the tender which they made, reinstate themselves in the position they once held under the agreement. The defendants maintain the contrary of most of these propositions, and insist that the agreement gave them the right to make, or cause to be made, any machines, when or where they saw fit ; that it gave them the right to repair, and, if necessary, rebuild the machine which was constructed under the superintendence of Wardwell, and first put in use ; that, although the agreement imported that before such making and use of the additional machines they should pay the sums specified therefor, a court of equity should not regard them as having forfeited their right, and subject them to accountability as *tort-feasors*, but, on payment of the amount stipulated, as already tendered, with the interest from the time when it ought to have been paid, should regard them as having made the complainants whole in the matter, and as therefore exonerated from further liability ; that the use of the one machine by the Rutland Marble Company, though not warranted by the terms of the agreement, was not the act of the defendants ; that, although the Marble Company may be liable therefor, the defendants are not ;

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and, especially, that such use could not operate to destroy the right of the defendants to use that machine or the others.

Our conclusions upon the case are as follows:

1. We think it clear that the right conferred upon the defendants, subject to the conditions of the agreement, was a right to construct and use the machines therein mentioned. True, the patent granted to an inventor confers upon him the right to make, to use, and to vend to others to be used; and it is possible for him, in granting to others a share in his exclusive right, to limit the privilege granted, as he may see fit, and it is, therefore, possible for him to keep these privileges distinct, if he can find persons willing to pay for one without the right to enjoy either of the others. Each case, however, must be judged of as well by the terms of the grant of privilege as, also, by the situation of the parties or the circumstances under which they act. *Wilson v. Stolley*, 4 McLean, 275. If a party engaged exclusively in the construction of machines of various kinds, for sale to others, were to receive a license to manufacture a patented machine, for a consideration presently paid to the patentee, a construction which would deny him all opportunity to make the privilege of any value, forbidding his sale of the machines when manufactured, should be very clearly imported by the license, or the court would hold that the parties meant that he should derive some benefit from the license, and not be left thereafter wholly dependent on the will of the patentee. On the other hand, when the patentee, having made machines, sells one with the right to use the same, his grant may, with propriety, be limited to the particular machine sold; and it is also clear, that such a sale would (unless limited in terms or by special circumstances) import the right to use, although not so expressed. So, a sale of a patented invention to a dealer, not for use, but for sale to others, would carry with it the right, in the ultimate purchaser, to use the machine sold. Limitations in respect to territorial limits, extent of use, and the like, may be, and, in general, are, provided by express terms or stipulations.

In the present case, it appears, by the evidence, that Wardwell, the patentee, was struggling with a comparatively untried invention, anxious to bring it into use. The defendants were proprietors of quarries, engaged largely in business, and their example

and their recommendation would be of great service in bringing his expensive machine before the public, and, if it proved valuable, into reputation. To secure this advantage, Wardwell, reciting that the defendants were desirous of "obtaining an interest" in his letters patent, in consideration of one thousand dollars paid by them, assigned and sold to them, and their heirs, executors, and assigns, the right to use "said patented invention," to the extent of one machine. Were there nothing more in the agreement or its contemporaneous supplement, we should say that these terms imported a grant of the right to the whole benefit of what was secured to Wardwell by the patent, to the extent of one machine. Subsequent words limited the use to their quarries. But, within those quarries, they could, to that extent, use the invention, and, to be used within those quarries, they could sell and assign it, or vend it to others to be used. The defendants did not suppose—Wardwell could not have supposed—that he still retained a control over the interest which the defendants sought to acquire, which would render it necessary for the defendants to pay him further for one of the privileges secured to him by the letters patent, before they could make their purchase available for any purpose. They both supposed that this transaction was the direct and immediate means of bringing his invention into important use. The letter of the defendants, written shortly afterward, at the request of Col. Nichols, who was in some manner interested in the patent, wherein they say, "We have had one machine made, and paid one thousand dollars for the right to use it, and intend to get other machines as fast as we can," indicates this construction of the agreement, most clearly. But the supplemental agreement makes this quite plain. In that, Wardwell, at the instance of the defendants, as is obvious from the tenor of the agreement itself, and as is expressly proved, in order to enable Sheldons & Slason to procure the one machine, agreed to superintend its construction and attend to starting it, superintending the same until fairly and successfully at work, they paying for its construction, paying his board, and a fair compensation per day for each day's labor. If it were otherwise doubtful, it is plain that under this agreement, the defendants could have required him to superintend that construction on their own premises, by their own machinist, or at any other machine-shop which they

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might designate. He was to be paid no further royalty or license fee, nothing for any supposed exclusive right to manufacture, but only for his day's labor, as a mechanic. His skill was put at their service, for the construction of the machine in the best manner, and at the smallest cost, and that alone the defendants were to pay. We think, therefore, the claim that the defendants did not acquire the right (subject to the other conditions of the contract) to make the machines themselves, or employ others to make them, is not well founded. All that has been said applies as well to the additional machines, except that the defendants did not bind Wardwell to superintend their construction. The gradually diminishing scale of prices for the privileges granted, adopted to induce the defendants to bring the machines into large use, tends in the same direction as other circumstances above adverted to.

If it were necessary, we might, on the authority of *Woodworth v. Cook*, 2 Blatch. C. C. 151, and cases therein cited, go further, and say that it is established, by other proofs, to our satisfaction, that it was the intention of the parties that the defendants should have the right to make, or procure to be made, the machines which they obtained the right to use; and that, if this does not sufficiently appear by the language of the instruments, then the omission in this respect was a plain mistake. The instrument does not, in that case, express the actual agreement; and, although no cross-bill has been filed, to reform the contract, such facts may be used as a defense to the suit; and, as it is shown that Wardwell is not only a stockholder, but one of the trustees of the complainants, and their superintendent of construction, it is not clear that the complainants can assert that they are *bona-fide* purchasers, without notice of the agreement with the defendants, who were already in the possession and use of one of the machines, so as to deprive the defendants of such defense. But, our conclusion, founded upon the considerations before stated, renders it unnecessary to place the decision upon this ground.

2. We think it no less clear that the agreement conferred the right to repair, and, if necessary, to rebuild the first machine made, paid for, and put to use in the quarry. The grant was not a sale of a particular machine, or a license to use a particular machine, but it was an assignment of the right to use the patented invention to the extent of one machine; and this right was "to

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be held and enjoyed by the defendants, their heirs, executors, and assigns, to the full end of the term of the patent." During all that time they might have and keep in use one machine. Number of machines in use was the subject of limitation, but it was to be permitted for the full term. Extent of use was the subject of declaration defined by the agreement, but that extent of use was to continue through the period. Whatever was necessary to the enjoyment of that use, to the extent or limit of one machine during the whole period, was involved in the grant. If repairs were necessary, that was included; if rebuilding was requisite, that might be done, so that the use stipulated for and granted might extend through the duration of the patent. See *Bicknell v Todd*, 5 McLean, 236; *Woodworth v. Curtis*, 2 Woodbury & Minot, 524.

These views in regard to the construction and effect of the agreement are important in reference to the relief to be granted, notwithstanding our opinion upon other branches of the case. The defendants, by the agreement, and the payment to Wardwell of the one thousand dollars therein mentioned, did acquire the right to construct and use the machine which, under the superintendence of Wardwell, was made, and also the right to keep it in repair, and, if necessary to the enjoyment of the use of the patented invention, to the extent of one machine during the term of the patent, to rebuild it, maintaining it in suitable condition for use. We find no ground for saying that these rights have been forfeited. In so far as the use of this machine in another quarry was beyond the license, we think the defendants are liable for any profits they realized therefrom, and for any damages sustained by the complainants. The defendants are not shown, it is true, to have given an actual consent to such use, but they had the ownership and control of the machine, and there existed no right to use it outside of their quarry. They acquiesced in such use. Without their consent, or that of their agents, such use could not have happened. There is no pretense that the Rutland Marble Company took the machine by force or against the will of the defendants. In that infringement of the rights of the complainants, the defendants find no protection in the agreement. They are, with the Rutland Marble Company, joint infringers. But the present grant can not, in respect to such machine, be regarded

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as upon condition. It is enough that, for such unlawful use, the agreement furnishes no protection. As to that, the defendants stand liable, as they would be if aiding or co-operating with the Rutland Marble Company, when no such agreement was in existence. In respect to that machine, the property is vested, the agreement is fully executed, and the right is not revocable. There was no condition annexed, upon the breach of which the complainants were remitted to their original rights, and could treat the agreement as at an end. They limited the privilege granted, and any use beyond that leaves the defendants liable as infringers.

3. The much more important question relates to the effect of the agreement upon the right of the defendants to use the five machines purchased from the Windsor Manufacturing Company. The defendants were not entitled to any right or privilege beyond the use of one machine, except upon condition expressly stated in the agreement. Without compliance with those conditions, they stood, in their relation to the patentee, in the same position as a third party having no agreement with him, and their use of his invention was as clear an infringement of his patent as like use by such third party. In respect to additional machines, they had, perhaps, secured an option, at a low rate of charge by the patentee, but the condition that they should pay the sums named was none the less absolute. It was upon the payment, and only upon the payment, that they were entitled to use any additional machine. They, therefore, bought and used the Lamson machines without right, and as literally and truly so as if they had never had an agreement with Wardwell. The right of the complainants to treat them as *tort-feasors* was perfect. They were liable to the complainants for damages, and the complainants' title, in equity, to treat the gains and profits realized by such tortious use, as held by the defendants as trustees for the complainants, was fixed and certain; and, on filing the bill of complaint herein, the right to recover could not, in any aspect of the case, be defeated by a tender of performance of the original conditions. This is not upon the ground of any forfeiture, not because any right once acquired was forfeited by the non-performance of a condition, but because the right to use the additional machines never existed. It was not acquired by the defendants in the only mode in which they could gain it. The complainants, therefore, could not, upon

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any principle of law or equity, be compelled to waive their right to gains and profits, and accept interest on the money in lieu thereof.

But this is not all. The defendants, by their conduct, placed themselves in such a position, as, we think, both at law and in equity, deprives them of any benefit whatever from the agreement, so far as relates to the additional machines. *Quoad hoc*, they defeated the very design and purpose which, upon their own showing, and as, in reference to the other branch of the subject, they here claim, constituted the inducement which moved the patentee to make the arrangement. They discontinued the use of the patented machine, which they had a right to do, but the doing of which points to their design and purpose to abandon the contract. They lay by for three years, doing nothing in the use of the invention, suffered the machine which they had to be used by the Rutland Marble Company, as a thing in which they had no concern, and then allied themselves to the infringers of the patent, and bargained for infringing machines. When notified, by the complainants, that such machines were a violation of their rights under the patent, and that prosecution would follow, they not only made no pretense that they were acting, or were willing to act, under the contract, but set the complainants at defiance, secured themselves against loss, by the covenants of the infringers, and persisted in the piracy. Instead of acting in subordination to the contract, with a view to preserve the rights or advantages stipulated therein in their favor, they lent themselves, so far as in their power, to the destruction of all value in the thing stipulated. Instead of exercising the option which, it may be conceded, they had, for a reasonable time, at least, to take and use the machines specified therein, they declared, by the most decided and unequivocal conduct, their intention to pay nothing more for machines or the right to use them, to Wardwell or to the complainants. Had they so declared in the strongest terms language can furnish, they could not more distinctly have expressed their determination to have, or pay for, no more Wardwell machines. In this view, the defendants must be deemed to have abandoned the contract, so far as it related to additional machines, and the complainants had a clear right, in equity not less than at law, to accept the abandonment and hold them to its consequences. This is no hardship. It partakes very little of the character of the enforcement

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of a forfeiture. The defendants chose, voluntarily, to attach themselves to the infringing party, and, when they did so, they chose to meet the just consequences. If they were advised that the machines which they used were not an infringement, that only establishes more firmly that they abandoned their contract with Wardell and determined to have no more of his machines, and shows more fully, that, in the face of admonition and warning, they preferred to take their chance with the infringers. When, after about six years, their effort to defeat the purposes of the agreement had had its probable effect, to the prejudice of the complainants, and the decision of the question of infringement had shown that their conduct was unlawful, it was too late to retrace their steps. Their conduct had discharged the complainants and Wardwell from any obligation to treat them as licensees in respect to any machine but the one originally put into use. The conclusion is, that the complainants are entitled to a decree, that the defendants be enjoined from using the five machines purchased from the Windsor Manufacturing Company, or any machine but the one first put into use, but not against repairing and maintaining that machine during the term of the patent, for which the complainants or their assignor have received the full consideration. The defendants must also be decreed to account for, and pay to the complainants, all gains and profits made by them, by the use of the said five machines, or by the use of the other one by the Rutland Marble Company, and must be decreed to pay, in addition thereto, all damages (beyond such gains and profits), if any, sustained by the complainants, from the defendants' unlawful use of the said five machines, or from such unwarranted use of the said first machine by the Rutland Marble Company, together with the costs of this suit.

THE NICOLSON PAVEMENT COMPANY

vs.

CHARLES E. JENKINS.

An assignment of an interest in an invention secured by letters patent is a contract, and, like all other contracts, is to be construed so as to carry out the intention of the parties to it.

There is no artificial rule in construing a contract; and effect, if possible, is to be given to every part of it, in order to ascertain the meaning of the parties to it.

It is well settled that the title of an inventor to obtain an extension may be the subject of a contract of sale.

Where an assignment conveyed a specified territorial interest in "the *invention* and letters patent," to be enjoyed by the assignee and his legal representatives "to the full end of the term for which the said letters patent are or *may* be granted:" *Held*, that it was the intention to secure to the assignee the right to use the invention in the territory named as long as the inventor or his representatives had the right to use it elsewhere.

(Before the Supreme Court of the United States, April, 1872.)

ERROR to the Circuit Court for the District of California.

Suit brought upon "letters patent for an improvement in wooden pavements," granted to Samuel Nicolson, August 8, 1854; reissued a second time, August 20, 1867; and extended for seven years from August 8, 1868.

Each of the parties claimed to hold the exclusive right to the patent in the city of San Francisco for the renewed or extended term.

The defendant in error professed to hold by virtue of certain assignments made by the administrator of Nicolson's estate subsequent to the grant of the extension, and it was conceded that his title was valid unless a previous assignment from Nicolson to one Jonathan Taylor, from whom the plaintiff in error assumed to derive title, embraced the extended as well as the original term. This

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assignment was executed December 1, 1864, and recorded in the Patent Office, September 25, 1865. The granting and habendum clauses of the deed were in the following words:

"Now, therefore, this indenture witnesseth: That for and in consideration of the said sum, to me paid, I have assigned, sold, and set over, and do hereby assign, sell, and set over unto the said Jonathan Taylor all the right, title, and interest which I have in the said *invention and letters patent* for and in the said city of San Francisco, but in no other place; the same to be held and enjoyed by the said Taylor for the use and behoof of him and his legal representatives to the full end of the term for which the said letters patent *are or may be* granted, as fully and effectively as the same would have been held and enjoyed by me had this assignment never been made."

All the right vested in Taylor by virtue of this instrument passed by mesne assignment, to the Nicholson Pavement Company prior to the extension of the patent, and was held by said company at the time when the suit was commenced.

The decision of the court below will be found reported in *Jenkins v. Nicolson Pavement Co.*, 4 Fisher, 201.

R. J. Brent and T. T. Crittenden, for plaintiff in error.

J. R. Sharpstein and M. H. Carpenter, for defendant in error.

DAVIS, J., delivered the opinion of the court.

The controversy in this case grows out of the different views taken by the parties to the record of their rights under the deed of assignment of December 1, 1864, from Nicolson to Taylor, through whom the plaintiff in error claims. The learned court below held that Taylor and his assigns took by it no interest in the renewed or extended term of the patent, but only such interest as was covered by the original patent and the reissues for the original term.

An assignment of an interest in an invention, secured by letters patent, is a contract, and like all other contracts is to be construed so as to carry out the intention of the parties to it. It is well settled that the title of an inventor to obtain an extension may be the

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subject of a contract of sale, and the inquiry is whether the instrument of sale employed in this case did secure to the purchaser an interest not merely in the original letters patent, but in any subsequent extension of them. It recites the invention and the agreement of Taylor to purchase the right to use it in the city of San Francisco, and then conveys to him all the title and interest which Nicolson had in the *invention* and letters patent for and in the said city; to be enjoyed by Taylor and his legal representatives to the full end of the term for which the said letters patent are or may be granted. There is no artificial rule in construing a contract; and effect, if possible, is to be given to every part of it, in order to ascertain the meaning of the parties to it. Taking this whole deed together, it is quite clear that it was intended to secure to Taylor and his assigns the right to use the invention in San Francisco as long as Nicolson and his representatives had the right to use it anywhere else. Manifestly something more was intended to be assigned than the interest then secured by letters patent. The words "to the full end of the term for which the said letters patent are or may be granted" necessarily import an intention to convey both a present and a future interest; and it would be a narrow rule of construction to say that they were designed to apply to a reissue merely, when the invention itself, by the very words of the assignment, is transferred. It was easy to have restricted the right to use the invention to the end of the term of the original letters and reissues, but this was not done; and in view of the right of the inventor in certain contingencies to a renewal—which must have been well known to both buyer and seller of this kind of property—we are led to the conclusion that both parties contracted with reference to it.

The recent case of *The Railroad Company v. Trimble*, decided by this court at its last term (10 Wallace, 367), is not different in principle from this, although in that case the language used is somewhat broader.

JUDGMENT reversed, and a *venire de novo* awarded.

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ALBERT L. MOWRY

vs.

ASA WHITNEY. IN EQUITY.

Whitney's patent, April 25, 1848, for "improvement in annealing and cooling cast-iron car-wheels," is not for a combination, but for a process which consists in applying foreign heat to a hot-chilled wheel at the point of time when it has reached a particular stage of cooling, by means of such heat bringing the whole casting up to a higher and uniform temperature, and maintaining an equable abatement of heat in a furnace or chamber under the control of the operator.

This is more than a process of annealing, or of a double use of that process; and in all the experiments previously made for annealing other castings, the object sought was different, and the effect upon the annealed metal or glass was not to leave them in the condition to which it was sought to bring car-wheels—with the crystallization or chill of the periphery unimpaired, and the plate or thin part unaffected by strain.

The definiteness of a specification may vary with the subject. Addressed to those skilled in the art, it may leave something to their skill in applying it, but it should not mislead them; and it may be sufficient, though the unskilled may not be able to gather from it how to use the invention.

It being clearly indicated in the specification that the primary object of Whitney's process of making car-wheels is to relieve from and to guard against hurtful strain, without destroying the chill, and that the chilled wheel is placed in the heating-furnace for this purpose, an operator, in following the directions of the specification, would be taught by his practical knowledge that the instant the thin parts of the wheel had been heated to the temperature at which the strain commenced—a lower temperature than that which existed when the chill was formed—no more would be needed.

The direction that the temperature of all parts of the wheels deposited in the furnace "be raised to the same point (say a little below that at which fusion commences)," merely fixes a maximum and a minimum limit. The heat must not reach the point of fusion, and the prescribed minimum is that degree where the heat of the different parts is equal.

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Within those limits the degree is left to the judgment of the operator; and the patent is not void for want of utility or insufficient description.

The defendant having taken his wheels red-hot from the molds, and packed them in a pit with charcoal, his avowed object being to reheat them to the proper temperature, to prolong the heat, and to cool them gradually, in order to counteract the strain from unequal contraction: *Held*, that the process embodied the same idea as Whitney's invention, and was carried out by means identical in principle.

An infringer of a patented process is to account for the additional advantage derived therefrom beyond what he would have had without it; and he is not liable to the extent of his entire profits in the manufacture.

In estimating an infringer's profits, the question to be determined is what advantage has he derived from using the patented process over what he had in using other processes then open to the public, and adequate to enable him to obtain an equally beneficial result.

The profits recoverable against an infringer are really damages, and unliquidated until the decree is made; and upon unliquidated damages interest generally is not allowed.

Where the defendant's infringement was not wanton, but consisted in the use of a process secured to him by a patent: *Held*, that while this did not protect him against responsibility for damages, it ought to relieve him from liability for interest on profits.

(Before the Supreme Court of the United States, April, 1872.)

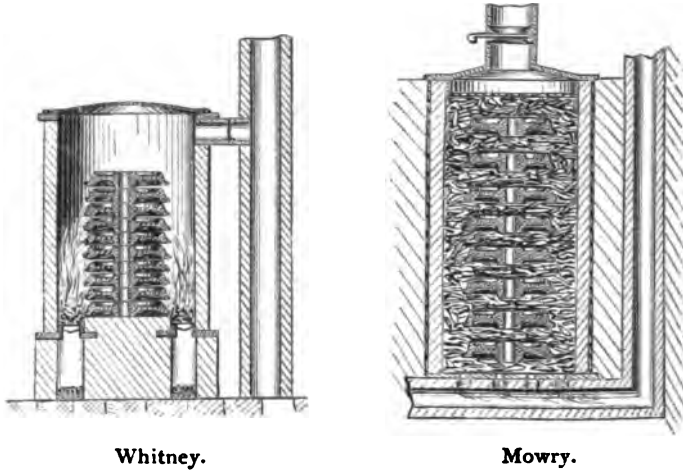
APPEAL from the Circuit Court for the Southern District of Ohio.

Suit brought upon letters patent for an "improvement in annealing and cooling cast-iron car-wheels," granted to complainant April 25, 1848, and extended for seven years from April 25, 1862. The infringement consisted in the manufacture of car-wheels under letters patent granted to defendant February 16, 1861.

The invention of Whitney consisted in removing car-wheels from the molds in which they were cast as soon as they would bear removal, placing them in a furnace, where they were subjected to a reheating sufficient to raise all parts of the wheel to the same temperature, and then allowing them gradually to cool. By this means, the chilled tread and the softer hub and spokes or web cooled together, without inherent strain; and the tendency of the spokes to fracture, by reason of contraction in cooling, was obviated.

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Both parties made use of furnaces or annealing or cooling pits.



The above engravings illustrate these pits. Whitney heated his pit before and after the introduction of the wheels by a fire kindled upon the grates, shown at the sides of the pile of wheels. Mowry placed his first wheel on a shallow layer of charcoal, and added more coal as each successive wheel was placed in the pit. The wheels being at a red heat, ignited the charcoal. In both, the wheels were allowed to remain for about three days, and to cool gradually.

It was alleged by the defense that Whitney's patent was invalid for want of novelty, it being urged that his process of annealing and cooling car-wheels was but a double use of the annealing processes previously well known in the manufacture of articles of glass and speculum metal, of pulleys, cog-wheels, gun-carriage wheels, and large machinery wheels, where the articles had been taken red-hot from their molds and annealed and slow-cooled by the application to them of extraneous heat.

It was further claimed that the patent was void for lack of utility in the invention, as therein described, since the application to the wheel of the degree of heat indicated in the specification would destroy the "chill" of the tread, and thus greatly detract from its usefulness and durability.

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Defendant also denied that his process was an infringement upon Whitney's patent.

These several points having been decided in the circuit court in favor of the complainant, were involved in the appeal. The appeal also embraced a question as to the measure of damages for which an infringer is liable, the court below having awarded as damages the entire profits realized by defendant in the manufacture of wheels in which he used the complainant's process, with interest upon the same from the dates of sales.

Charles B. Collier and *A. G. Thurman*, for appellant.

H. Baldwin, Jr., E. W. Stoughton, and B. R. Curtis, for appellee.

STRONG, J., delivered the opinion of the court.

The patent of the complainant, first granted to him April 25, 1848, and extended for seven years from April 25, 1862, was for "a new and useful improvement in the process of manufacturing cast-iron railroad wheels." The specification states the improvement to consist in taking railroad wheels from the molds in which they are ordinarily cast as soon after being cast as they are sufficiently cool to be strong enough to be moved with safety, or before they have become so much cooled as to produce any considerable inherent strain between the thin and thick parts, and putting them in this state into a furnace or chamber that has been previously heated to a temperature as high as that of the wheels when taken from the molds. As soon as they are deposited in this furnace or chamber, the opening through which they have been passed is closed, and the temperature of the furnace or chamber and its contents gradually raised to a point a little below that at which fusion commences, when all the avenues to and from the interior are closed, and the whole mass is left to cool no faster than the heat it contains permeates through and radiates from the exterior surface of which it is composed. By this process all parts of each wheel are raised to the same temperature, and the heat they contain can only pass off through the medium of the confined atmosphere that intervenes between them and the walls of the furnace or chamber. Consequently, the thinnest and the thickest

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parts cool and shrink simultaneously together, which relieves them from all inherent strain whatever when cold.

The mode of constructing and regulating, as well as heating the furnace used by the patentee, is then described; but it is stated that the heat required to perform the process may be obtained by the use of any other fuel, or may be taken from the furnace in which the metal is melted to form the wheels. This is followed by a description of some of the advantages resulting from the process, and a disclaimer by the patentee of his being the inventor of annealing castings made of iron or other metal, when done in the ordinary way, or of his being the inventor of any particular form or kind of furnace in which to perform the process. The claim is then set forth as follows:

"But what I do claim as my invention, and desire to secure by letters patent, is the process of prolonging the time of cooling in connection with annealing railroad wheels, in the manner above described—that is to say, the taking them from the molds in which they are cast before they have become so much cooled as to produce such inherent strain on any part as to impair its ultimate strength, and immediately after being thus taken from the molds depositing them in a previously heated furnace or chamber, so constructed, of such materials, and subject to such control that the temperature of all parts of the wheels deposited therein may be raised to the same point (say a little below that at which fusion commences), when they are allowed to cool so fast and no faster than is necessary for every part of each wheel to cool and shrink simultaneously together, and no part before another."

It is for an alleged infringement of this patent that the complainant's bill was filed, and the defenses set up are that the patent is void for want of novelty in the invention, and for want of utility, and also that it has not been infringed by the defendant.

To determine how far these defenses are sustained, it is important to have a clear apprehension of the state of the art when the patent was granted, and of the invention which it was intended to secure to the patentee. Prior to August 2, 1847, cast-iron railroad wheels had been cast, and cast in chills, that is, they had been cast in sand molds with an outer circumference of iron. The effect of this outer circumference was to produce a more rapid chill on the periphery of the wheel, thereby crystallizing and hardening

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it, so that the wheel was made stronger and more capable of resisting the friction of the rails. But the parts of the wheel were of different thicknesses. The hub and the rim were much thicker than the plate which connected them, and of course they cooled after casting more slowly than the plate. The consequence of this unequal cooling was to produce a strain between the thick and thin parts, that greatly impaired the strength of the wheel. Various devices had been made to guard against or to remedy the mischief resulting from this inherent and inevitable strain, caused by unequal contraction in cooling. The most common of these, perhaps, was casting the wheel with the hub in sections, in order that the sections might accommodate themselves to the contraction of the plate. But this was expensive. It required the open space between the sections to be filled up with other metal, and generally it required the hub to be hooped. It is unnecessary, however, to describe these devices. It does not appear that in any of them the idea existed of making a car-wheel with chilled tread, straight plates, and solid hub, annealed and cooled so as to leave it uninjured by the strain attendant upon the unequal cooling of the thick and thin parts. Annealing some kinds of castings was known and practiced before 1847. This is abundantly proved by the witnesses; and various modes of annealing plain castings had been described by scientific writers, both in this country and abroad, before that time; but there is no evidence that we have been able to discover that cast-iron car-wheels had ever been subjected to an annealing process, in connection with slow cooling, before the process was discovered or invented by Whitney. In all the experiments made for annealing other castings, the object sought was different; and in them all, as well as in the process described in the publications given in evidence, the effect upon the annealed metal or glass was not to leave them in the condition to which it was sought to bring car-wheels, with the crystallization or chill of the periphery unimpaired, and the plate or thin part unaffected by strain. Cast-iron railroad wheels are castings of a peculiar kind. The methods of slow cooling, or of annealing and slow cooling, which were applied to other castings before 1847, were not adapted to their peculiarities or to what they needed. They are not homogeneous throughout. They are of different thickness in their several parts, and hardened at the

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tread, while the plate and hub are not crystallized, but are soft and tough. These different qualities of the different parts it is necessary to preserve, and what was needed when Whitney's invention was made, was to preserve them and at the same time relieve against any strain caused by unequal cooling, which might impair the strength of the wheel.

If, now, we proceed to inquire what Whitney's alleged invention was, as described in his specification and claim, it will be seen that it was a process, not to make a car-wheel or to destroy any of the advantages which had already been secured, but to add another. Its avowed object was to obtain a new value, or rather exemption from imperfection. It was to remedy the evil of strain resulting from the more rapid cooling of one part of the wheel than the cooling of the other parts. And this was sought to be accomplished by a process that insured the cooling of all parts, both the thick and thin, with equal slowness. The process consists of several parts. The first is taking the wheels from the molds, after the melted iron has been run into the molds, before they become so much cooled as to produce strain on any part sufficient to impair their ultimate strength. The second is placing the wheels, immediately after their removal, in a furnace or chamber previously heated to about the temperature of the wheels when taken from the molds, the heat in the furnace being subject to control. The third is applying heat until the temperature of all the parts of the wheels shall again be raised to the same point—indeinitely said to be a little below that at which fusion commences. The fourth and last stage in the process is allowing the wheels, after they have been thus reheated, to cool so fast as, and no faster than, is necessary for every part of each wheel to cool and shrink simultaneously together, and no one part before another. It is, therefore, a patent for a process, not for a combination. Neither as a whole nor in parts can it be considered without reference to the ultimate object in view, which was to retard cooling by a second application of heat, supplied until all parts of the wheel are raised to the same temperature, and then permit the heat to subside so gradually that the cooling of the parts shall not only commence at the same point of temperature, higher than that where hurtful strain begins, but shall continue equable till all artificial heat ceases. The removal from the molds to the furnace or chamber, the removal at the time described

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before the incipient strain has become permanently hurtful, and to a place where more heat may be applied, and where the heat can be under control, are parts of the process to secure equable cooling during the time when cooling without such appliances is likely to produce strain and consequent weakness. It is apparent that this is more than a process for annealing. That is included, it is true, but it is only a small part. It is applying foreign heat to a hot chilled wheel at the point of time when it has reached a particular stage of cooling, by means of such foreign heat bringing the whole casting up to a higher and uniform temperature, and maintaining an equable abatement of heat in a furnace or chamber under the control of the operator.

We have sought in vain through the proofs submitted in this case for any satisfactory evidence that this process was known before 1847, when Whitney commenced it, or that anything equivalent to the process was known. Certainly nothing of the kind had ever been applied to cast-iron railroad wheels; and, as we have seen, they are castings of a peculiar character, not admitting of the treatment that may be applied to other castings. What they needed was (what was substantially described by one of the witnesses) the discovery of the fact that the chilled cast-iron, constituting one part of the wheel, could be subjected to heat less than that which would cause fusion, without producing any material effect upon its hardness, while the cooling of other parts of the wheel, could be so prolonged by applying that heat externally as to enable all parts to cool without being subjected to the strain attendant on unequal contraction; and, in addition to the discovery, they needed the invention of a process by which it could be practically carried out. Such a discovery and such a process were needed for no other castings. The novelty of the patentee's invention is not, therefore, disproved by evidence that glass, or speculum metal, or even other iron castings, had been annealed and slow-cooled prior to the time when it was made. Of this there is very considerable evidence, both in the testimony of witnesses and printed publications. The specification disclaims invention of annealing iron castings done in the ordinary mode. It claims annealing when applied to cast-iron railroad wheels in the mode or by the process described. It is not, therefore, merely an old contrivance or process applied to a new object, a case of

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double use. A new and previously unknown result is obtained, namely, the relief of the plate of the wheels from inherent strain without impairing the chilled tread, a result which, though anxiously sought, had not been obtained before Whitney's invention. We are therefore of opinion that the defense set up that the patent was void for want of novelty of invention is unsustained.

The validity of the invention is next assailed, for the reason that the process described in it and claimed is denied to be useful, because it would destroy the hardness of the rim or tread of the car-wheel, known as the chill, and thus greatly detract from the durability and usefulness of the wheels.

It is undoubtedly true that a chilled periphery or tread is essential to the usefulness of a car-wheel. Indeed, the evidence is, that whenever car-wheels are spoken of, wheels with chilled tread are meant, and any process which destroys the chill must render them valueless for the purposes for which they are needed.

It is also true that the fusing point of cast-iron is in the neighborhood of 2786° of Fahrenheit, twelve or fifteen hundred degrees above the point at which, according to the evidence, the chill of the tread of a car-wheel would be destroyed. If, therefore, the process patented to Whitney requires, after the removal of the wheel to the heated furnace or chamber, the application of a degree of heat closely approximating the point of fusion, it must be conceded that instead of being beneficial it is positively hurtful. And this is what is contended by the appellant. The objection seems to be aimed at the sufficiency of the description of the patentee's invention, which it is abundantly proved he practiced successfully through many years, rather than at its utility. Whitney conceived a process and practiced it. That process may have been a highly useful invention, and therefore patentable, and yet he may have failed so to describe it as to teach the public how to practice it. The law requires every inventor, before he can receive a patent, to furnish a specification or a written description of his invention or discovery, and of the manner and process of making, constructing, using, and compounding the same, in such full, clear, and exact terms, avoiding unnecessary prolixity, as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same. The specification, then, is

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to be addressed to those skilled in the art, and is to be comprehensible by them. It may be sufficient, though the unskilled may not be able to gather from it how to use the invention. And it is evident that the definiteness of a specification must vary with the nature of its subject. Addressed as it is to those skilled in the art, it may leave something to their skill in applying the invention, but it should not mislead them. The objection here is that in describing the degree of heat to be applied after the wheels have been deposited in the heated chamber, the patentee states it to be such that the temperature of all parts of the wheels "may be raised to the same point (say a little below that at which fusion commences) ;" and the defendant insists that this amounts to a direction to raise the heat to a degree that must destroy the chill of the tread and thus render the casting valueless as a railroad car-wheel. But it is obvious that only vague and uncertain directions could have been given respecting the extent to which the heat is necessary to be raised. It must differ with the difference in the progress of cooling which has taken place before the wheels are removed from the molds. The process requires this removal before they have become so much cooled as to produce such inherent strain on any part as to impair its ultimate strength. Precisely when such a strain begins can not be known. Cooling commences the instant the casting is made, and with cooling commences contraction, and strain must soon follow. Plainly it is impossible to describe the point of time when the strain has proceeded so far as to impair the ultimate strength of any part of the wheel. That, in the nature of things, must be left to the judgment of the operator. But before that time the strain may be checked, and this is what is contemplated by raising the temperature of all parts of the wheel to the same point or degree. The moment that is done the strain ceases, and the primary object of the patentee's process is accomplished. The state of things is reproduced which existed before the contraction and attendant strain began, when the slow cooling is allowed to follow in an atmosphere so heated and regulated that each part of the wheel loses its heat at an equal pace with all others.

Now, any one skilled in making cast-iron railroad car-wheels in view of this specification must see that the object of the process is to relieve from and guard against hurtful strain without destroy-

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ing the chill, and that heat is applied only for that purpose. It requires no particular science or skill to enable an operator to perceive that the moment all parts of the wheel are raised from a point above where serious strain begins, and where yet the thick and thin parts are in different stages of cooling, to a stage where the degree of temperature of all parts is the same and above the degree where serious strain commenced, the thing sought has been attained. Then the avowed purpose of the inventor has been accomplished. It would be most unreasonable to read the directions of the specification without reference to the object which they profess to have in view. The evidence is that the chill is formed while the casting is in the mold, and that the hurtful strains commence after the formation of the chill. Indeed, it is manifest there can be no strain until the chill is complete. It must be, therefore, that all the heat which is needed to relieve from the strain is that which suffices to raise the temperature of the thin part or plate to the degree at which the strain commenced—a lower temperature than that which existed when the chill was formed. Hence, an operator, in following the directions of the specification, would be taught by his practical knowledge that the instant all parts of the wheel had been heated to that temperature no more heat was needed.

And we do not think it a fair construction of the patentee's language to hold that it requires the heat to be raised in all cases to a degree only a little below the point of fusion. He does not attempt to give any more definite direction than that all parts of the wheel must be raised to the same temperature, suggesting in a parenthesis ("say, a little below that at which fusion commences"). He fixes a maximum. The heat must not reach the point of fusion, and the prescribed maximum is that degree where the heat of the different parts of the wheel is equal. Within those limits the degree is left to the judgment of the operator, and within those limits it is clear from the evidence that the process may be applied without injury to the chill. The proof is that it has been successfully applied in the manufacture of a vast number of wheels, and that failure has been very rare.

There are some witnesses who have testified that the Whitney process, as they understand it, would destroy the chill of the wheel; but they explain their understanding to be that the wheels

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are to be reheated to a degree far beyond what is required to relieve from strain, and thus heated for no purpose. They keep in sight the maximum limit, and approach near to that, overlooking entirely the minimum, and disregarding the single object of the process—namely, relief of the plate or thin part of the wheel from the strain caused by unequal contraction.

We are, therefore, of opinion that the patent is not void for want of utility, and that the specification sufficiently describes the process invented and claimed.

The remaining defense is a denial that the process conducted by the defendant is an infringement of Whitney's patent.

What the process of the defendant was is clearly set out in a patent which he obtained on May 7, 1861. It consists in placing in a pit the wheels as they are turned out of the molds red-hot, with a layer of charcoal beneath the lowest wheel, and a layer between each wheel as well as above the uppermost, and covering the pit with a perforated metal plate. The charcoal is ignited by the hot wheels, and just sufficient air is admitted to effect combustion of the coal. Thus the wheels are reheated and permitted gradually to cool. There are some minor details which it is unnecessary to mention. So far as relates to reheating the wheels and retarding the cooling by the application of additional heat, it is obvious that the process is substantially the same as that covered by the complainant's patent. The object is the same, and the mode of attaining it is in substance the same. The purpose of the charcoal interlaid with the wheels is avowed to be to heat them in the pit to a proper temperature, prolonging the heat, and permitting them to cool gradually in a given time—said to be seventy-two hours, more or less, as may be found necessary for the annealing operation. The rapidity of combustion of the charcoal is regulated by a damper in the flue; and this process is followed, as the specification explains, that the different parts of the wheels may adjust themselves to each other and accommodate the unequal contraction which results from the process of chilling. It is under this patent and in accordance with its directions that the defendant has prepared his car-wheels for market. As the object of the patentees is the same—relief from the strain incident to unequal contraction—the only inquiry is whether the object is attained by substantially the same means. The idea of Whitney

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was, undoubtedly, arresting contraction before any remediless strain had commenced, and regulating the process of cooling, so that all parts of the wheel may maintain an equal temperature at all stages of cooling. Manifestly, the process of the defendant embodied the same idea, and carried it out by means identical in principle. It reheats the wheels when removed from the molds to the chamber or pit. It prolongs the cooling in connection with the reheating, and it subjects the rapidity of cooling to the control of the operator. The form or structure of the furnace, chamber, or pit is not claimed by either patentee.

It hardly seems necessary to resort to the opinions of experts in order to reach the conclusion that the process of the defendant is only formally different from that of Whitney, while the essential elements of the two processes are the same; but the testimony of the experts examined, taken as a whole, clearly supports such a conclusion. It is true some of the witnesses testify that, in their opinion, the processes are different; but when they attempt to describe the difference they point out only matters which are merely formal—only variances in the mode of using the same process. On the other hand, several witnesses, entirely competent to apprehend the principle of the invention and the devices for practically using it, have testified that the processes of the defendant and of the complainant are substantially the same in principle, mode of operation, and in the effect produced. We must, therefore, conclude that the charge of infringement made in the bill has been sustained, and that the complainant was entitled to a decree for an injunction and an account.

We come next to the consideration of the account stated by the master and confirmed by the circuit court. The master reported that Mowry, the defendant, used Whitney's process in the manufacture of nineteen thousand eight hundred and nineteen wheels, and the account has been stated on that basis. For the use of the process in making these wheels, the defendant has been charged with \$91,501.86 as profits made by him (more than \$4.60 on each wheel), besides \$19,984.21 interest upon such profits to August 1, 1868, and the further sum of \$10,980.22, being interest from August 1, 1868, to August 1, 1870. It is very obvious in view of the evidence in the case, that the account has been erroneously stated. The patentee himself, in 1862, when apply-

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ing for an extension of his patent, stated, under oath, that he believed there was no essential difference in the cost per pound of making cast-iron chilled car-wheels of the various patterns, and by the different modes in use, provided the same skill and system controlled the manufacture; that by his process he was enabled to make them lighter than those made in any other way for a similar service, and therefore could afford to sell them at the same price per wheel as other makers, and save the cost of the difference in weight; that this saving of metal he deemed to measure the essential advantage he had over his competitors, and also the profits arising from his patent; and he estimated that ten pounds per wheel would be a fair average of the metal saved by his process. If he was correct in this statement the profits arising from the use of his patent in manufacturing nineteen thousand eight hundred and nineteen wheels, valuing iron at the price proved to have been paid for it by the defendant, must have been less than \$5,500, instead of over \$91,000, decreed in the circuit court—about thirty cents per wheel, instead of four dollars and sixty cents. It is not an unfair presumption that, if the profit to the patentee was no greater than he claimed it was, it could not have been more when the invention was used by an infringer. Now, it is clear that Whitney is not entitled to receive more than the profits actually made in consequence of the use of his process in the manufacture of nineteen thousand eight hundred and nineteen wheels. It is the additional advantage the defendant derives from the process—advantage beyond what he had without it—for which he must account. But he has been held liable far above this. The master reported, in the first instance, the difference between the cost of the wheels and the price for which they were sold as the profits realized by Mowry, thus charging him the profit obtained from the entire wheel, instead of that resulting from the use of Whitney's invention in a part of the manufacture, and this though he found at the same time and reported that Mowry had built up his business before he commenced the use of Whitney's process; that the use of the process did not diminish the cost of making wheels, but increased it; that while he used the process, he used the same quality of iron that he had used before, and made no difference in the weight or form of the wheels, or in their price; and that the wheels made by him before he com-

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menced the use of Whitney's invention, and since he has abandoned it, have sold as readily and at the same prices as those manufactured by that process.

Exception was taken to the charge of the profit made by the entire manufacture of the wheel, including not only the selection and mixing of the iron, but its melting, pouring into molds, forming the chill, removing from the molds, and cleaning, as well as annealing and slow cooling; and the case was again sent to the master with instructions to inquire, first, whether the wheels made and sold by the defendant had, or could have been made to have, any market value without being subjected to the process patented to Whitney; and second, if they had, or could have been made to have, such value by any annealing or slow-cooling process outside of the Whitney patent, how much additional value, if any, they derived from being subjected to that patented process. To this the master returned that he was unable to report any division of profits; and, being uninformed as to what was covered by the patent, he reported that, if the entire process of reheating and prolonged cooling used by Mowry in the manufacture of the wheels was an infringement of the complainant's patent, the total profit realized by the defendant from the manufacture and sale of the wheels was due to the use by him of the complainant's invention. He reported, secondly, that if there was no infringement of the complainant's patent, unless the wheels are subjected to the process of reheating—that is to say, if the process of slow cooling used in connection with reheating is old, and not a part of the complainant's invention, nor included in his patent, no part of the profits realized by the defendant from the manufacture and sale of the wheels was due to the use by him of the complainant's invention. This second finding of the master the court set aside. But he further found that, had the wheels manufactured by the defendant been left to cool in the open air, they would have had no value as car-wheels, and have been worth only the value of the iron of which they were made: that reheating in connection with slow cooling, or slow cooling without reheating, is indispensable to make marketable cast-iron wheels of the configuration of those made by the defendant: that there is no reheating process for the manufacture of cast-iron car-wheels outside of the complainant's patent.

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The master also found that the wheels could have been removed from the molds and finished without being subjected to the reheating process, or without any extraneous heat, and he specified two modes in which it might be done. Wheels so manufactured, he reported, have and did have, during all the time in which the defendant used the complainant's process, a market value equal to that of wheels manufactured by that process. There are some other findings which may be briefly noticed:

1. That the nineteen thousand eight hundred and nineteen wheels were annealed wheels, and sold as such.
2. That if the complainant's patent includes prolonging the time of cooling the wheels, as used by the defendant, the process conferred upon them their entire market value, above their weight in iron, but not so if the complainant's patent covers only the application of extraneous heat to the wheels after they are taken from the molds.
3. That taking annealing to mean reheating in connection with slow cooling, no other process of annealing in connection with slow cooling than that patented to the complainant, and that described in the patent of the defendant, appears to have been known.
4. That the wheels made by the defendant required no treatment other than that described in the complainant's patent to complete them as annealed wheels.
5. That, still taking annealing to mean reheating in connection with slow cooling, the annealed wheels could not have been made by any process outside the complainant's patent.

Upon these findings the court decreed against the defendant the entire profits made by him in the manufacture and sale of the wheels from beginning to end—not only the profits resulting from the reheating and regulated slow cooling in connection, but also those which may have resulted from mixing and melting the iron, casting in molds, making the chill, and from the possible advance on the iron above its cost, with interest on the whole.

This we think was an error. The findings of the master justified no such decree. It must be conceded that the findings are incomplete, obscure, and in some particulars incongruous, but it is not a legitimate construction of them, taken together, that the benefit which the defendant derived from the use of the complain-

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ant's invention was equal to the aggregate of profits he obtained from the manufacture and sale of the wheels as entireties, after they had been completed. It is as true of a process invented as an improvement in a manufacture, as it is of an improvement in a machine, that an infringer is not liable to the extent of his entire profits in the manufacture. *Jones v. Morehead*, 1 Wall. 155; *Seymour v. McCormick*, 16 How. 480. If the wheels made by the defendant would have had no market value above that of cast-iron if they had not been annealed and slow cooled, the same may be said if they had been cast without a chill. The same principle, therefore, which gives to the complainant the aggregate profits of the entire manufacture would give the same profits to a patentee of the process of chilling, if there were one; and as there are many processes in the manufacture, for each of which it is conceivable there might be a patent, and as every one of the processes is necessary to make a marketable wheel, an infringer might be mulcted in several times the profits he had made from the whole manufacture. We can not assent to such a rule. The question to be determined in this case is, what advantage did the defendant derive from using the complainant's invention over what he had in using other processes then open to the public and adequate to enable him to obtain an equally beneficial result. The fruits of that advantage are his profits. They are all the benefits he derived from the existence of the Whitney invention. It is found that there were other processes by which the inherent strain caused by unequal cooling could be and was prevented; counteracting which strain was the sole object of the complainant's invention, and a car-wheel could be prepared for similar service, valuable in the market, and salable at a price not less than was obtained for those which the defendant manufactured. The inquiry then is, what was the advantage in cost, in skill required, in convenience of operation, or marketability in bringing car-wheels by Whitney's process from the condition in which they are when taken hot from the molds to a perfected state, over bringing them to the same state by those other processes, and thus rendering them equally fit for the same service. That advantage is the measure of profits. It is quite unimportant what name was given to the products of the processes, whether one could be

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called annealed wheels and the other could not, except so far as it affected their marketability.

We have already noticed that the court overruled the alternative finding of the master, that if there is no infringement of the complainant's patent unless the wheels are subjected to the process of reheating—that is to say, if the process of slow cooling used in connection with reheating is old and not a part of the complainant's invention—no part of the profit derived by the defendant from the manufacture and sale of the wheels was due to the use by him of that invention. One exception taken to this finding was that, not only the entire process described in the patent, but each part of such entire process was the invention of the complainant, and the use of any material, substantial, and essential part of such entire process—the slow cooling being a substantial and material part, whereby only an improved chilled cast-iron railroad wheel could be made, and beneficial effects (the same in kind if not in degree) attained that were attained by the complainant's entire process—is an infringement of complainant's patent; and the profits derived from the use of such material, substantial, and essential part should be accounted for in this case. This exception the court sustained, and thereby held that the defendant is chargeable with the profits he derived from slow cooling alone. We can not assent to this.

The patent is for an entire process, made up of several constituents. The patentee does not claim to have been the inventor of the constituents. The exclusive use of them singly is not secured to him. What is secured is their use when arranged in the process. Unless one of them is employed in making up the process, and as an element of it, the patentee can not prevent others from using it. As well might the patentee of a machine, every part of which is an old and known device, appropriate the exclusive use of each device, though employed singly, and not combined with the others as a machine. The defendant was not, therefore, responsible for slow cooling alone, or for the profits he derived from it. He was liable to account for such profits only when he used slow cooling in connection with reheating in the manner described in Whitney's claim, substantially, or when extraneous heat was employed to retard the progress of cooling. We have said that slow cooling is not claimed in the specification as the invention of

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the patentee ; and it is found by the master that there are other modes of slow cooling, and even other modes of relieving against the inherent strain caused by unretarded cooling, than that practiced by the complainant and claimed by him. Though, therefore, slow cooling is an essential part of the complainant's process, it is an equally essential part of other processes which the defendant was at liberty to use in preparing his car-wheels for market.

We add only that, in our opinion, the defendant should not have been charged with interest before the final decree. The profits which are recoverable against an infringer of a patent are in fact a compensation for the injury the patentee has sustained from the invasion of his right. They are the measure of his damages. Though called profits, they are really damages, and unliquidated until the decree is made. Interest is not generally allowable upon unliquidated damages. We will not say that in no possible case can interest be allowed. It is enough that the case in hand does not justify such an allowance. The defendant manufactured the wheels of which the complaint is made under a patent granted to him in 1861. His infringement of the complainant's patent was not wanton. He had before him the judgment of the Patent Office that his process was not an invasion of the patent granted to the complainant ; and, though this does not protect him against responsibility for damages, it ought to relieve him from liability to interest on profits.

The decree of the circuit court is reversed, and the cause is remanded, with instructions to proceed in accordance with the rules laid down in this opinion.

ALBERT L. MOWRY ·

vs.

ASA WHITNEY. IN EQUITY.

Although in this country the writ of *scire facias* is not in use as a chancery proceeding, the nature of the chancery jurisdiction and its mode of proceeding have established it as the appropriate tribunal for the annulling of a grant or patent from the government.

No one but the government, either in its own name or the name of its appropriate officer, or by some form of proceeding which gives official assurance of the sanction of the proper authority, can institute judicial proceedings for the purpose of vacating or rescinding the patent which the government has issued to an individual, except in the cases provided for in section 16 of the act of July 4, 1836.

(Before the Supreme Court of the United States, April, 1872.)

APPEAL from the Circuit Court for the Eastern District of Pennsylvania.

Suit brought to set aside and annul the patent for an "improvement in annealing and cooling cast-iron car-wheels," granted to Asa Whitney, April 25, 1848, and subsequently extended for the term of seven years from April 25, 1862. Defendant demurred to the bill, and the demurrer was sustained. Appellant alleged this ruling of the court as error. The points are stated in the opinion.

Charles B. Collier and *A. G. Thurman*, for appellant.

H. Baldwin, Jr., *E. W. Stoughton*, and *B. R. Curtis*, for appellee.

MILLER, J., delivered the opinion of the court.

This is a bill in chancery brought to set aside and annul a patent for an invention, which was renewed in the office of the Commis-

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sioner of Patents, on the ground that, in making the extension, the commissioner was deceived and imposed on by the fraud and false swearing of the patentee.

The suit was brought in the Circuit Court for the Eastern District of Pennsylvania, in which the defendant resided, by Albert L. Mowry.

The patent was for an improvement in the process of annealing car-wheels, and the interest of plaintiff in the matter is, that before the time of the first issue of defendant's patent had expired, plaintiff had been engaged in the same business, and that he is now sued by the patentee for infringement of his extended patent in an action still pending; and that, in the progress of the investigations necessary to his defense of that suit, he discovered the fraud by which the extension was obtained.

The bill was demurred to, and the demurrer sustained on two grounds: First, that the extended patent had expired by its own limitation before the bill was filed; and, secondly, that plaintiff could not, in his own right, sustain such a suit.

As regards the first of these propositions, we do not deem it necessary to make any decision. When a case arises in which the United States, or the attorney-general, shall initiate a suit to have a patent declared null *ab initio*, which, though no longer in force as to present or future infringement, is used to sustain suits for infringements during its vitality, the question will be considered; for we are of opinion that no one but the government, either in its own name or the name of its appropriate officer, or by some form of proceeding which gives official assurance of the sanction of the proper authority, can institute judicial proceedings for the purpose of vacating or rescinding the patent which the government has issued to an individual, except in the cases provided for in section 16 of the act of July 4, 1836.

The ancient mode of doing this in the English courts was by *scire facias*, and three classes of cases are laid down in which this may be done: First. When the king, by his letters patent, has, by different patents, granted the same thing to several persons, the first patentee shall have a *scire facias* to repeal the second. Second. When the king has granted a thing by false suggestion, he may by *scire facias* repeal his own grant. Third. When he has granted that which by law he can not grant, he, *jure regis*,

and for the advancement of justice and right, may have a *scire facias* to repeal his own letters patent. 4 Coke's Institutes, 88; Dyer, 197, 198, 276, 279. The *scire facias* to repeal a patent was brought in chancery, where the patent was of record; and though in this country the writ of *scire facias* is not in use as a chancery proceeding, the nature of the chancery jurisdiction and its mode of proceeding have established it as the appropriate tribunal for the annulling of a grant or patent from the government.

This is settled, so far as this court is concerned, by the case of the *United States v. Stone*, 2 Wallace, 525, in which it is said that the bill in chancery is found a more convenient remedy. A bill of this character was also sustained in the English chancery in the case of the *Attorney-General v. Vernon*, 1 Vernon, 277, on the ground of the equitable jurisdiction in matters of fraud; and in the case of *Jackson v. Lawton*, 10 Johnson, 24, Chancellor Kent says that, in addition to the writ of *scire facias*, which has ceased to be applicable with us, there is another remedy by bill in the equity side of the court of chancery.

It will be observed that in the case of a conflict under two patents granting the same right, the *scire facias* may, according to the authorities cited, be brought in the name of one of the patentees; but, in the other cases, when the patent was obtained by fraud upon the king by false suggestion, or where it was issued without authority, and for the good of the public and right and justice, it should be repealed, the writ is to issue in the king's name or his attorney-general. It is also said that when a patent is granted to the prejudice of the subject, the king of right is to permit him upon his petition to use his name for the repeal of it in *scire facias* at the king's suit. *The King v. Sir Oliver Butler*, 3 Leving, 220.

Section 16 of the patent act of 1836 seems to have in view the same distinction made by the common law in regard to annulling patents; for, while it authorizes individuals claiming under conflicting patents, or one whose claim to a patent has been rejected because his invention was covered by a patent already issued, to try the conflicting claim in chancery, and authorizes the court to annul or set aside a patent, so far as may be found necessary to protect the right, the suit by individuals is limited to that class of cases; and it is provided that the decree shall be of no validity

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except between the parties to the suit. The general public is left to the protection of the government and its officers.

It seems reasonable that the remedy by bill in chancery, which is substituted for the *scire facias*, should have the like limitation in its use. The reasons for requiring official authority for such a proceeding are obvious. First. The fraud, if one exists, has been practiced on the government; and, as the party injured, it is the appropriate party to assert the remedy or seek relief. Second. A suit by an individual could only be conclusive in result as between the patentee and the party suing, and it would remain a valid instrument as to all others. Third. The patentee would or might be subjected to innumerable vexatious suits to set aside his patent, since a decree in his favor in one suit would be no bar to a suit by another party. If, on the other hand, an individual finds himself injured, either specially or as a part of the general public, it is no hardship to require him to satisfy the attorney-general that the case is one in which the government ought to interfere, either directly by instituting the suit, or indirectly by authorizing the use of its name, by which the attorney-general would retain such control of the matter as would enable him to prevent oppression and abuse in the exercise of the right to prosecute such a suit.

It would seriously impair the value of the title which the government grants, after regular proceedings before officers appointed for the purpose, if the validity of the instrument by which the grant is made can be impeached by any one whose interest may be affected by it, and would tend to discredit the authority of the government in such matters.

The decree of the circuit court sustaining the demurrer and dismissing the bill is therefore affirmed.

UNITED NICKEL COMPANY

vs.

FREDERICK C. AUTHES. IN EQUITY.

Prior to the discoveries of Adams, the electro-deposition of nickel by means of such solutions as are described in the complainant's patent, prepared and used in the described manner, so as to be free from foreign substances and acid or alkaline reactions, which would interfere with the uniform, continuous, and coherent deposition of the metal, was unknown in any practical application of it to the useful art of electroplating of metals with nickel.

The use of such an anode as is described in Adams' patent, cast from commercial nickel in the desired form, and combined with carbon, and a metal or metalloid electro-negative to the solution employed, was first successfully and practically made by Adams.

Such an anode is not anticipated by a prior experiment, the result of which was an anode composed of a carbide of nickel; such result, however, being one apparently not designed, appreciated, or discovered by the experimenter.

However suggestive the experiments of others may have been in the electro-deposition of nickel from different solutions, or in the mere casting of nickel, they can not be made available to defeat a patent granted to one who, after all the experimenters had failed to secure a practical and successful result, beneficial to the community, and a valuable contribution to the useful arts, first succeeded so as to be able to disclose to the public a practically useful and successful process, by him first brought to perfection and first made capable of useful application.

(Before SHELLEY, J., District of Massachusetts, May, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for "improvements in the electro-deposition of nickel," granted to Isaac Adams, Jr., August 3, 1869, May 10, 1870, and April 11, 1871.

The difficulties attending the previous processes by which the electro-deposition of nickel had been attempted, are stated in the

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opinion. The description of the method by which the patentee prepares the solution from which the nickel is deposited is too lengthy to admit of quotation.

James B. Robb, for complainant.

R. Lund and *L. R. Batchelder*, for defendant.

SHEPLEY, J.

The complainant corporation is the owner, by assignment from the patentee, of letters patent granted to Isaac Adams, Jr., dated, respectively, August 3, 1869, May 10, 1870, and April 11, 1871, for discoveries and improvements made by him in the electro-deposition of nickel.

Before the date of the experiments of Dr. Adams, the electro-deposition of nickel was as well known as that of other metals. Chemists and lecturers in scientific schools, and experimenters in metallurgy, had practically demonstrated that many different solutions could be made to yield a simple deposit of nickel. In experiments made to determine the value of electrolysis as a method of analysis, and to determine the laws of electro-chemistry, which govern its reduction, and especially in experimental attempts to utilize it as a plating or coating for other metals, the electro-deposition of nickel had been made out of solutions of several of its salts.

The object of those who were experimenting in the attempt to utilize this metal as a coating for other metals for practical uses, appears to have been to discover a mode by which this metal could be deposited by the battery readily, uniformly, and especially as continuously as copper, silver, and gold were deposited by processes well known and in common use in the application of electro-metallurgy to the useful arts. While it was well known that nickel possessed certain qualities which would render it of great value in the arts if it could be deposited thus readily, uniformly, and continuously by the battery, the practical difficulties which had never been overcome had prevented it from being used (except to a very limited extent and under very unfavorable conditions as to the cost and the quality of the work) in the useful

arts. One of these difficulties is stated in edition of 1867 of the Manual of Electro-Metallurgy of James Napier, as follows:

"The great difficulty experienced is to obtain a positive electrode. The metal is very difficult to fuse, and so brittle that we have never been able to obtain a plate or a sheet of it. Could this difficulty be overcome, the application of nickel to the coating of the metals would be extensive, and the property of not being liable to tarnish would make it eminently useful for all general purposes."

The evidence in the record, however, shows that the difficulties in the way of the practical electro-deposition of nickel were not confined to the positive electrode, but were also inherent in the character of the solution of the salts of the metal which were employed. Different solutions of nickel salts, when subjected to the action of a galvanic current, were found to behave in very different ways—some of them depositing a mixture of reguline metal and secondary products; others depositing only an oxide, a subsalt, or some secondary product, without any metal; some solutions did not dissolve the anode, while others dissolved it so imperfectly that by use the solution grew gradually weaker in metal; and these difficulties were not only inherent in the character of the solutions themselves, but in other cases were due to the presence of foreign elements, or the temperature or density of the solutions, or the intensity of the current employed. The patentee claims to have discovered the causes of all these difficulties, and a practical process by which all these difficulties are obviated, so as to fulfill all the required conditions of electroplating with nickel, so that the anode will supply the solution with nickel as fast as it is deposited, maintaining a uniform density in the solution, and so that the solution itself shall yield an amount of metal exactly or substantially equivalent to the amount of battery power expended, and deposit the metal uniformly and continuously, so that the coating of nickel shall be compact, coherent, and tenacious.

The difficulties attending the practical deposition of the metal and the nature of his improvements are well described by the patentee in his several patents. They relate to the method of preparing solutions, to the method of preparing nickel plates for the anode of the depositing cell, and to the properties and condi-

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tion and character of the deposit itself. In the patent of August 3, 1869, the patentee claims:

"1. The electro-deposition of nickel by means of a solution of the double sulphate of nickel and ammonia, or a solution of the double chloride of nickel and ammonium, prepared and used in such a manner as to be free from the presence of potash, soda, alumina, lime, or nitric acid, or from any acid or alkaline reaction.

"2. The use, for the anode of a depositing cell, of nickel combined with iron to prevent the copper and arsenic which may be present from being deposited with the nickel or from injuring the solution.

"3. The described methods for preparing the solution of the double sulphate of nickel and ammonia, and the double chloride of nickel and ammonium.

"4. The electroplating of metals with a coating of compact, coherent, tenacious, flexible nickel of sufficient thickness to protect the metal upon which the deposit is made from the action of corrosive agents with which the article may be brought in contact.

"5. The deposition of electrotypes plates of nickel, to be removed from the surface on which the deposit is made, and used separately therefrom."

In the patent of May 10, 1870, the patentee claims:

"1. The combination, with nickel to be used for anodes, of a metal or metalloid electro-negative to the nickel in the solution employed.

"2. A nickel anode combined with carbon, and cast in the required form."

The patent of April 11, 1871, claims "a cast-nickel anode as a new article of manufacture."

All these claims are contended by the plaintiff to have been infringed by the defendant, except the fifth claim in the patent of August 3, 1869. The defendant, to prove that Adams was not the original and first inventor of the things patented to him, relies in his answer upon the following published works: Schubath's Chemistry, published in 1835; Gore's Theory and Practice of Electro-Deposition, published in 1860; the Chemical News of

September 6, 1862. In amendment to the answer, he also relies on Brand's Manual of Chemistry, published in London in 1848.

The passages referred to in Schubath contain no allusion to the electro-deposition of nickel.

The processes described on page 60, section 28, of Gore's Theory and Practice of Electro-Deposition, are clearly proved by the uncontradicted testimony of experts, not only to be dissimilar to the process described in the patent, but to be practically useless for the continuous deposition of nickel. Four different solutions are mentioned: the first, the nitrate of nickel solution, is demonstrated by experiment to be useless; and the three other solutions are proved, by reason of their alkalinity, to be practically useless for the purpose of the useful arts, as not properly dissolving the anode and affording a uniform deposition or a continuous process.

The process described in the Chemical News and Journal of Physical Science, No. 144, page 126, is obviously a different process from the process described in the patent. The process does not contemplate the use of an anode to keep the solution in its normal state of density or concentration. It describes two methods of keeping up the density of the solution and maintaining the uniformity of concentration. These methods of supplying the solution are by means of the oxide of nickel or the salt of nickel placed at the bottom of the depositing cell. The difficulties attending these modes of supplying the waste in the solution are fully explained in the testimony of the experts in the case. It is sufficient for this case, however, to remark that the processes are obviously inferior to and different from the process of the patentee, and do not anticipate his invention.

Brand's Manual of Chemistry does not describe any mode of electro-deposition of nickel. Two methods are described of making the sulphate of nickel, neither of them, according to the proof, capable of producing a salt free from acidity or impurity.

These are the only published works referred to by the defendant in his answer, and there is nothing in them to invalidate the complainant's patent for want of novelty. The other published works referred to in the evidence for the defendant do not describe any process of depositing the metal from a solution by means of electricity, excepting in the case of "Smee's Elements of Electro-Metallurgy" and "The Contributions to Chemistry," by Prof.

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Gibbs, both of which refer rather to processes by which nickel can be electrotyped out of a solution; but neither of them name a solution or describe a process which would meet the requirements and afford the conditions of a process for practical use in the art of electroplating other metals with nickel. The testimony of Prof. Sharples, relied upon by the defendant, only proves the use by him of the process and solution described by Prof. Gibbs in his paper before referred to, called "Contributions to Chemistry." He testifies that his solution was different from the one described in the patent, and different from the one used by the defendant.

The evidence in the record incontestably proves that the art of electroplating of metal, or the electro-deposition of one metal upon the surface of another, was old and well known. The mere electrolysis of nickel out of a salt of that metal was well known to chemists and metallurgists. A solution of the double sulphate of nickel and ammonia does not appear to have been unknown to experimenters in making experiments in electrolysis for the purposes of analysis. So the fusibility of nickel at a high temperature was known; and that fusion of nickel may have been, and probably was, conducted accidentally and without any design and without any reference to any useful result, under such conditions as might, and perhaps did, leave an admixture of carbon and iron. But it proves as incontestably that, prior to the discoveries of the patentee, the electro-deposition of nickel by means of such solutions as are described in the complainant's patent, prepared and used in the described manner, so as to be free from foreign substances and acid or alkaline reactions, which would interfere with the uniform, continuous, and coherent deposition of the metal, was unknown in any practical application of it to the useful art of electroplating of metals with nickel. It is equally clear that the use of such an anode as the patents describe, cast from the commercial nickel in the desired form, and combined with carbon and a metal or metalloid electro-negative to the solution employed, was first successfully and practically made by him. /The evidence of Remington shows an experiment with a cast-nickel anode, and we may, perhaps, reasonably conclude, from the conditions under which that experiment was made, that the product of the casting was a carbide of nickel. But if such

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was the result, it was one apparently not designed, appreciated, or discovered. The experiments of Remington with a cast-nickel anode appear to have been suggested by the discoveries of the patentee, and to have been unsuccessful and abandoned experiments. However suggestive the experiments of others may have been in electro-deposition of nickel from different solutions, or in the mere casting of nickel, they can not be made available to defeat a patent granted to one who, after all the experimenters had failed to secure a practical and successful result beneficial to the community and a valuable contribution to the useful arts, first succeeded so as to be able to disclose to the public a practically useful and successful process, by him first brought to perfection and first made capable of useful application.

The evidence of infringement is found in the defendant's admission that his process was the same as that of the Boston Nickel-Plating Company, which was the process described in the patents carried on by the company as licensees under the complainants. It is apparent, from the testimony of Prof. Sharples, that the solution used by the defendant, and from the admission of the defendant himself, that the anodes used by him, were substantially the solution and anodes described in the patent. As it is clear that the defendant has infringed the patent of August 3, 1869, and May 10, 1870, both of which, under the true construction of their claims, the court considers to be good and valid patents, it is not necessary in this case that the court should decide whether the patent of April 11, 1871, is or is not defective, although the impression of the court is that, as one process of casting is given by reference to a former patent, the patent itself may be maintained if the evidence of the previous state of art should correspond with the statements and claims of the patent. The decree and injunction in this case will, therefore, have reference to the patents of August 3, 1869, and May 10, 1870.

Decree for account as prayed for in the bill, and the injunction to be made perpetual as to the patent of August 3, 1869, and May 10, 1870. Decree in the usual form to be drawn up and submitted to the court.

Brown v. Whittemore.

ALZIRUS BROWN

vs.

JONATHAN R. WHITTEMORE.

As to public use of an invention for more than two years prior to the application for a patent, the presumption is in favor of the patent, especially when the record shows that the patent has been granted to the real inventor and the principal inventor in the class of machines to which the invention relates.

Letters patent for an "improvement in hay-rakes," as reissued to George Whitcomb, June 16, 1868, are valid.

Whitcomb's main invention construed to be for the relative arrangement of the rake-head, axle, and wheels, irrespective of the position of the hinges, whether on the upper or the lower edge of the rake-head.

The previous state of the art does not restrain him to a rake-head hinged to the shafts in the precise way shown in the patent.

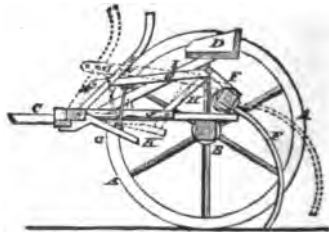
A patentee can not claim an alternative combination if the separate combinations would not make an operative machine.

(Before CLIFFORD and LOWELL, JJ., District of Massachusetts, May, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for an "improvement in hay-rakes," granted to George Whitcomb, October 5, 1858, and reissued in two divisions, June 16, 1868, and assigned to complainant.

The nature of the invention is set forth in the opinion of the court, but it will be more readily understood by reference to the



accompanying engraving, in which the dotted lines show the position of the hand and foot levers when the rake teeth are

raised. It is obvious that by pressing the foot upon treadle K, the rake teeth will be depressed; while by pressing upon treadle J, they will be raised.

Thomas H. Dodge, for complainant.

Chauncey Smith, for defendants.

LOWELL, J.

The complainant's patent was applied for June 1, 1858, and issued in October of that year, and reissued June 16, 1868. The record does not contain a copy of the original patent, and there is no evidence of what changes, if any, are found in the reissue. In the absence of such evidence we must, of course, assume that the action of the Patent Office was well warranted by the facts, and that the reissued patent is open to only such objections as might have been raised to the original patent; and so the case has been argued.

The specification of the reissued patent, taken with the drawing and the model, shows an improved horse-rake for making hay and grain, in which the wire teeth are coiled round a rake-head which is hinged to the rear ends of the shafts just above and parallel with the axle. This rake-head is connected with two levers and treadles, which enables the operator to raise the rake with his right foot and hold it down with his left foot, besides a handle attached to one of these levers to work the same effect by hand.

There are five claims, of which the second is, "The combination and relative arrangement of the hinged rake-head with the supporting-axle and carrying-wheels, substantially as shown and described, whereby the head is supported above the rear upper edge of the axle, as shown, and the lower ends of the teeth, when gathering the hay, occupy positions in the rear of the head of the wheels and forward of a vertical plane on a line with the rear edge of the wheels, substantially as shown in the accompanying drawing;" and the fourth is, "The arrangement of the rake-head E and foot treadles H J and G K, or either, in relation to each other and the axle B, substantially as and for the purposes set forth."

Brown v. Whittemore.

The defendants make and sell a horse-rake which seems to come within the second and fourth claims, unless they are to be construed very narrowly; and their position is that, in view of earlier inventions, the complainant must either submit to such a limited construction or his claims are void. The inventions which the defendants rely on appear to have been made by the patentee himself; but they contend that he had publicly and commonly sold the rakes containing the patented improvements before the first day of June, 1856—that is, more than two years before the application on which his patent was granted. There is no doubt that Mr. Whitcomb, the patentee, was engaged in making and selling rakes for many years before he obtained his patent, and that he was continually improving them; the difficult point is to fix the exact date of the several improvements. The presumption is in favor of the patent, especially as it has been granted, so far as the record shows, to the real inventor and the principal inventor in this class of instruments; and upon a very careful examination of the evidence we are of opinion that the combinations of the second and fourth claims were not only invented by Whitcomb, but that they had not been publicly used or sold with his consent before the time in question. The earlier rakes do not appear to have had the relative arrangement of rake-head, axle, and wheels so carefully described in the second claim, but to have differed in a point of material importance by having the rake-head hung decidedly behind the axle, which, with the position of the teeth behind the rear line of the wheels (which naturally went with such a construction), made a rake decidedly inferior in operation to that described in the patent. And, though the evidence is not all on one side, yet the preponderance of it is that the combination of the treadle for raising the rake-head, with the other devices, was not fully discovered and used before June, 1856. That it made a new and useful combination we have no doubt; because, though a competent mechanic would easily adapt a treadle to a hay-rake, yet the idea of the combination was of itself a meritorious invention and a new one.

The defendants having failed to show that the patentee or any one else had made the combination so early as to defeat these claims, if construed according to their plain and obvious meaning, there is no occasion to restrain them to mean only a rake-

head hinged to the shafts in the precise way shown in the patent. The difference between the plaintiff's and the defendants' rake in this respect is that the hinges in the former are attached to the outward lower corner of the rake-head, and in the latter to the upper inner corner; so that in the patented machine the center of gravity of the rake-head is further forward, and the weight of the head is more fully borne by the hinges, and therefore it is raised very easily when the foot or hand is applied to the lever.

It is insisted by the defendants that this is the really distinguishing feature of the whole combination, and the only one in which this machine differs from its predecessors; but we do not find this to be so in fact, as we have already said. The evidence is that the relative position of the rake-head, axle, and wheels mentioned in the second claim is attained and is useful, whether the hinges are on the upper or lower edge of the rake-head, and that this arrangement, so understood, is new. This being so, it follows that the defendants' rake infringes the second claim of the patent.

We agree with the defendants' argument that the patentee might not be able to claim an alternative combination, as he does in his fourth claim, if the separate combinations would not make an operative machine; but it seems that the combination of either of the foot-treadles with the rake-head and the axle does make such a machine. The only important question in this particular case is whether the treadle G K, for holding the teeth down with the left foot, is essential for a working machine; and it is clear that the patentee in two passages of his specification describes that treadle as being needed only on certain occasions, when the grass is very heavy, etc.; and there is nothing to control this statement, which is well supported by an examination of the model. The defendants' rake has this combination. The foot-lever, indeed, is firmly united with and makes a part of the hand-lever; but the distinction between this arrangement and a treadle is a mechanical change of no importance after a treadle has been once combined with a rake-head.

Our opinion, therefore, is that the second and fourth claims of the reissued patent are valid and are infringed by the defendants. We have not thought it necessary to construe the first, third, and fifth claims.

There must be a decree for the complainant.

Ashcroft v. Walworth.

EDWARD H. ASHCROFT

vs.

JAMES J. WALWORTH ET AL. IN EQUITY.

The insolvent law of Massachusetts authorized the judge, "by an instrument under his hand, to assign and convey to the assignee all the estate, real and personal, of the debtor;" * * * and it also provided that such "assignment shall vest in the assignee all the property of the debtor, real and personal, which he could lawfully have sold, assigned, or conveyed, or which might have been taken in execution upon a judgment against him." *Held*, that the property vests in the assignee, by force of the statute, rather than by virtue of the terms of the assignment.

A conveyance by a judge, under this statute, is not such an assignment as is provided for by the act of Congress relating to patents, and is not sufficient to convey the title to the assignee.

The act of 1836, section 11, clearly contemplates a written instrument, signed by the owner of the patent, and duly recorded in the Patent Office, as necessary to vest the legal title in the purchaser.

To invest the assignee with the legal title, the court must compel a transfer, in conformity with the requirements of the patent act.

J. R. B. conveyed to R. A. B., his son, who afterward reconveyed to him, but the second conveyance was not recorded. After the last conveyance, R. A. B. undertook to convey to N., who had knowledge of both of the former assignments, "whatever right, title, or interest he had under the patent to manufacture the thing patented:" *Held*, that N. took nothing by this grant.

(Before SHEPLEY, J., District of Massachusetts, May, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought on letters patent for an "improvement in pipe-tongs," granted to James R. Brown, November 30, 1858.

The facts are sufficiently stated in the opinion.

James B. Robb, for complainant.

Smith & Bates, for defendants.

SHEPLEY, J.

The patent in this case was granted to James R. Brown, November 30, 1858. Previously to this time, November 6, 1858, Brown had conveyed to one William Freedly one-half of his interest in the invention and any patent which might be granted therefor. On March 31, 1859, Freedly conveyed his interest to Silas B. Goldthwait. The title stood one-half in James R. Brown and one-half apparently in Goldthwait, on June 16, 1860, at which time James R. Brown went into insolvency under the law of Massachusetts.

It is claimed by the defendants that, by virtue of the proceedings in insolvency, all the interest which James R. Brown then had in the patent passed to George H. Kingsbury, his assignee. The insolvent law of Massachusetts authorized the judge, "by an instrument under his hand, to assign and convey to the assignee all the estate, real and personal, of the debtor, except such as is by law exempt from attachment, with all his deeds, books, and papers relating thereto;" and it provided that "the assignment shall vest in the assignee all the property of the debtor, real and personal, which he could lawfully have sold, assigned, or conveyed, or which might have been taken on execution upon a judgment against him," etc., * * * "and shall be effectual to pass all said estate," etc., etc. Under this statute, it has been decided that the property vests in the assignee by force of the statute, rather than by virtue of the terms of the assignment. *Clark v. Minot*, 4 Metcalf, 346-348. The act of Congress of 1836, chapter 357, section 11, provides that every patent shall be assignable at law, either as to the whole interest or any undivided part thereof, by an instrument in writing, which assignment shall be recorded in the Patent Office within three months from the execution thereof. This act clearly contemplates a written instrument, signed by the owner of the patent, and duly recorded in the Patent Office, as necessary to vest the legal title in the purchaser. The insolvent law of Massachusetts provides, further, for confirming the assignment made by the judge by making it the duty of the debtor "to execute all such deeds and writings, and do all such other lawful acts and things as may be necessary or useful for confirming the assignment so made by the

Ashcroft v. Walworth.

judge, and to enable the assignee to receive or become possessed of all the estate and effects assigned as, aforesaid, especially such part thereof as may be without the commonwealth." This is an express recognition of the fact that there may be property so situated in other countries, or states, or territories, that the assignment itself would be ineffectual to pass it and transfer the title to the assignee without an instrument of conveyance from the debtor. Especially is this the case with patent rights; for, in the language of Justice Curtis, "these incorporeal rights (copyrights and letters patent) do not exist in any particular state or district; they are co-extensive with the United States. There is nothing in the act of Congress, or in the nature of the rights themselves, to give them locality anywhere, so as to subject them to the process of courts having jurisdiction limited by the lines of states and districts." *Stevens v. Gladden*, 17 Howard, 451. "It might have been competent for the court, under the insolvent law, to have compelled the debtor to execute such an instrument in writing as, in accordance with the provisions of the patent act, would have been effectual to transfer the title in the patent to the assignee. If a right in a patent was such property as did not come within the exceptions of the insolvent law as property not liable to attachment, or if it is of such a nature that it is subject to the operation of state insolvent laws, this would seem to have been the only proper and effectual mode to have made it available for the benefit of the creditors. Without such a conveyance as the statute of the United States contemplates, we do not think the assignee acquires any legal title to any interest the debtor may have in any letters patent. To invest the assignee with the legal title, the court must compel a transfer in conformity with the requirements of the patent act. *Stevens v. Cady*, 14 Howard, 531. No title, therefore, vested in Kingsbury, the assignee; no such instrument in writing assigning the debtor's interest to him ever having been made and recorded in conformity with the requirements of the act of Congress. The defendants did not acquire any title through the conveyance to Richard A. Brown, and from him to Norton. Before the conveyances from Richard A. to Norton, he had reconveyed to his father, James R. Brown; and, although that conveyance was not recorded, it was good against Norton, for Richard A. only undertook to convey whatever right,

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title, or interest he had under the patent to manufacture the thing patented—not the patent itself or any undivided interest therein. Nothing passed but the actual interest the grantor had at the time. *Brown v. Jackson*, 3 Wheaton, 449. Norton was not a *bona fide* purchaser, but took the conveyance with full knowledge of the previous conveyances from Richard A. Brown to James R. Brown. Plaintiffs are entitled to a decree for an account of the patented pipe-tongs made, used, or sold by the defendants since the conveyance to the complainant, and for an injunction, according to the prayer in the bill.

DECREE for complainant for account and injunction as prayed for—decree to be drawn up and submitted to the court.

FRANCES L. BARNES, EXECUTRIX OF, ETC., OF SAMUEL
H. BARNES, DECEASED,

vs.

FERDINAND STRAUS. IN EQUITY.

The invention described in reissued letters patent for "improvement in corset-springs," granted to Frances L. Barnes, executrix of, etc., of Samuel H. Barnes, deceased, August 31, 1869, is the arrangement in a pair, combined by clasps, on a corset, of two springs, each spring consisting of two metallic plates, placed one upon another, and fastened together at their centers, but so connected, at or near each end, that they can play or move upon each other in the direction of their length, and be prevented from sliding off each other laterally.

Such arrangement did not exist before the invention of Barnes.

The claims of such reissued patent are valid, and claim, under the expression, "a pair or set of corset-springs," two corset-springs connected by clasps, each spring being constructed as above mentioned.

The invention held not to have been anticipated by a carriage spring which existed before, or by a single corset-spring, composed of two plates, with provision for play, but with no means for combining it with a second spring.

Barnes v. Straus.

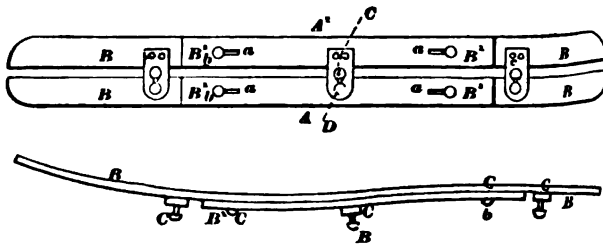
The combination, consisting of the two springs connected by the clasps, exists, *pro tanto*, so as to be an infringement, when the springs and clasps are made, ready to be inserted in a corset.

(Before BLATCHFORD, J., Southern District of New York, May, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for an "improvement in corset-springs," granted to Samuel H. Barnes, July 17, 1866; reissued to plaintiff as executrix of said Barnes, May 12, 1868; again reissued June 29, 1869; and again August 31, 1869.

The nature of the invention and claims are fully set forth in the opinion.



In the foregoing engravings, B represents the lower plate, and B' the upper; the two being connected by pins in slots, *a*, and the two parts of the corset-spring being connected by clasps, C, and buttons, D.

George Gifford, for complainant.

Keller & Blake, for defendant.

BLATCHFORD, J.

This suit is brought on reissued letters patent, granted to the plaintiff August 31, 1869, for an "improvement in corset-springs," the original patent having been granted to Samuel H. Barnes, as inventor, July 17, 1866, and reissued to the plaintiff May 12, 1868, and again June 29, 1869. In the specification it is stated that Barnes invented a "new and improved corset-spring." The specification says: "The present invention consists in forming the springs of corsets of two or more metallic plates, placed one

upon another, and fastened together at their center, but so connected, at or near each end, that they can play or move upon each other in the direction of their length, as the springs are bent, whereby their flexibility and elasticity are greatly increased, while at the same time much strength is obtained, and the springs rendered much more durable than the springs for corsets now in general use." There are two figures in the drawings, one giving a front view "of the two springs of the corset," that is, one spring of two plates on one side of the vertical opening in the corset, and another spring of two plates on the other side of such opening, "having the ordinary clasps for fastening the corset about the waist of the person who is to wear it." The specification states that the drawings represent two springs of a corset, properly bent in the direction of their length, to conform to the body or waist of a person, each spring composed of two metallic plates, placed one upon the other, the under one a little longer than the upper one, and secured at their centers, or midway between their two ends, this being done, in one of the springs, by the rivet which secures the ordinary corset-clasp to the spring; and, in the other one, by a headed rivet, on which such clasp is interlocked by its eye; that, at or near each end of each short plate, is a short slot, extending in the direction of its length, through which projects the rounded end or head of a pin fixed in the under plate; and that, by means of these slots, as the corset-springs are bent, the plates constituting the same can play or move, the one upon the other, the heads of the pins preventing the plates from springing apart from each other or sliding off laterally. The specification proceeds: "From the above description, it is plain to be seen, by forming the corset-springs of two plates (one or more may be used, if desired, laid one upon the other, but so connected together that the several plates constituting such springs can freely play upon each other in the direction of their length), that the flexibility, pliability, or elasticity of the springs is much increased, without in the least degree impairing their strength, rendering them much more durable and serviceable than the ordinary corset-springs now in general use—an advantage and result of the utmost importance and utility. Although the springs have been herein above explained as formed of two metallic plates, laid one upon the other, and secured together as described, three or more

Barnes v. Straus.

may be used, but two are sufficient for ordinary corsets, it being distinctly understood that this invention is not limited to any particular number of plates which may be employed to form the springs, whether one or more, it simply consisting in so securing the several plates constituting the springs, to each other, that they can freely move or play upon each other. It may be stated that the terms "corset-steel," "corset-spring," and "corset-clasp," are each and all employed by the trade to designate a pair of springs, steels, or stiffeners, connected by suitable clasps, whereby they are not only adapted to stiffen the front of the corset, but to fasten the two edges of the same together." The claims are these: "1. A pair or set of corset-springs, each spring consisting of two or more metallic plates, placed one upon another, and fastened together at their centers, but so connected, at or near each end, that they can play or move upon each other in the direction of their length, and be prevented from sliding off each other laterally. 2. A pair or set of corset-springs, each spring composed of two or more metallic plates, placed one above another and fastened together at their centers, and so connected, at or near each end, that they can move or play upon each other in the direction of their length. 3. A pair or set of corset-springs, each spring consisting of two or more metallic plates, placed one upon another, and fastened together at their centers, but so connected, at or near each end, that they can play or move upon each other in the direction of their length, and be prevented from sliding off each other laterally, the clasps by which the springs are combined, except the center one, being attached to only one of the plates."

The patent is attacked for want of novelty. The evidence shows that the arrangement in a pair, combined by clasps, on a corset, of two springs, each spring consisting of two metallic plates, placed one upon another, and fastened together at their centers, but so connected, at or near each end, that they can play or move upon each other in the direction of their length, and be prevented from sliding off each other laterally, did not exist before the invention of such arrangement by Barnes. The arrangement is useful, and Barnes invented it. Was the invention a patentable one, in view of what existed before?

The "ordinary" springs for corsets, referred to in the specifi-

cation as "in general use," consisted of two springs, one on each side of the vertical opening in the corset, each formed of a single metallic plate, and the two springs being combined with clasps, the same as are referred to in the specification as the "ordinary corset-clasp," consisting of a clasp with an eye on one spring and a head on the other spring. The whole arrangement and combination constituted, as the specification says, a "corset-spring," embracing the two springs, one on each side of the vertical opening in the corset, connected by the clasps. In this arrangement, Barnes substituted, for the single-plate springs, double-plate springs. By having two plates he secured greater strength. But, in order to maintain the flexibility of the spring, and prevent danger of fracture to the metal, in the bending of it, in use in the corset, he fastened the two plates together at their centers, and made lengthwise slots in the upper plate, near its end, through which headed pins, fastened to the lower plates, projected, which allowed the two plates to slide along each other lengthwise, when bent, while the headed pins prevented the plates from slipping by each other sidewise or springing apart from each other facewise. This provision was necessary in order to develop the advantage of a spring made of two plates; and, in order not to prevent such sliding action of the plates, it was further necessary that the clasping devices, other than those at the center of the length of the spring, should not be fastened through both plates. All this Barnes did, and this, in fact, was his real invention. He did not merely substitute two plates for one plate.

It being thus seen what Barnes did, the claims of the patent must be construed, if that can properly be done, so as to cover his real invention. Although the specification, in one place, speaks of the invention as consisting in making a spring of two plates which can play upon each other in the direction of their length, as the spring is bent, and, in another place, speaks of it as consisting in so securing the plates constituting the springs, to each other, that they can freely play upon each other, yet, in view of the whole specification, and of the fact that it says that the term "corset-spring" is employed, by the trade, to designate a pair of springs, connected by suitable clasps, and thus adapted, not only to stiffen the front of the corset, but to fasten its two edges together, the expression, "a pair or set of corset-springs," where it

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occurs, in each one of the three claims, can not be construed to mean anything else but two corset-springs connected by the clasps referred to, each spring being constructed in the manner described. In this view, the claims of the patent are all of them valid.

A spring existed before, used in a carriage, which consisted of several metallic plates, placed one upon another and fastened together at their centers, the shorter ones above the longer ones, but so connected at or near each end, by headed pins playing in and through slots, that they could move upon each other in the direction of their length, and be prevented from sliding off each other laterally. I think the evidence shows that there was something more than the mere new use of an old article, and more than the mere use of an old article for a new purpose, and more than the mere use of two springs, one of which had been used before, in making the combination which Barnes made. The carriage-spring differed from the corset-spring in not having that flexibility at the center of its length which the corset-spring has and must have, and in not curving in one direction at one end and in the other direction at the other end, as the corset-spring is shown in the drawings of the patent to do. In other words, the carriage spring was not a corset-spring, and could not be used as such, without such a change as involved invention.

The French corset-spring put in evidence was a single spring, not a combined pair of springs; and, although it was composed of several metallic plates, placed one above another and fastened together at their centers, and free to move or play upon each other in the direction of their lengths, yet it had no such provision as the slots and fixed pins with heads, which Barnes introduced, nor any other provision for preventing the plates from becoming disengaged facewise or laterally. The French spring had no means of combining it with a second spring, when the two should be used one on each side of the vertical opening in a corset.

The pair of springs of the patent, that is, the two springs connected by the clasps, constitute, as a whole, a patentable combination. The two springs and the clasps connecting them are all required to make the article, as "a corset-spring," at all useful, in performing the functions which it performs when the springs are

Hitchcock v. Tremaine.

actually combined by the clasps when the corset is worn. The combination does not have its full effects developed until it is used in the corset, yet it exists *pro tanto*, so as to be an infringement, when the springs and clasps are made, ready to be inserted in a corset. The elements which make up the combination called "a corset-spring" co-operate mechanically to a common mechanical end, which end is developed in the use of the springs and clasps in the corset when worn. The fact that the clasps were used before with the single springs, does not destroy the novelty and patentability of the combination and arrangement made by Barnes.

There must be a decree for the plaintiff, for a perpetual injunction and an account, with costs, as the infringement is not denied.

ALONZO HITCHCOCK

vs.

CHARLES M. TREMAINE AND WILLIAM B. TREMAINE.
IN EQUITY.

The fact that the defendant, in a suit in equity, for the infringement of a patent, did not have proper expert testimony, on the final hearing, is no ground for granting a rehearing, where no application was made in the premises before the final hearing, and no excuse is shown.

The fact that, since the first hearing, the defendant has discovered that a patent earlier than the plaintiffs', and which was in evidence on such hearing, has been twice reissued, the last time since such hearing, is no ground for granting a rehearing.

If there is nothing in a prior original patent to affect the validity of the patent sued on, no reissue of such prior patent made subsequently to the date of the patent sued on, can affect such validity.

On an application after a hearing in a patent suit, to put in alleged newly discovered evidence, it must be shown that the party could not, with reasonable diligence, have obtained such evidence prior to such hearing.

Observations on prior unsuccessful experiments set up to defeat a patent.

(Before BLATCHFORD, J., Southern District of New York, May, 1872.)

Hitchcock v. Tremaine.

THIS was a petition by the defendants to stay the entry of a final decree in the suit reported in 4 Fisher, 508 (8 Blatch. 440), and for leave to file an amended answer, and to take proof in support thereof, and for a rehearing of the cause.

Frederic H. Betts, for complainants.

B. E. Valentine, for defendants.

BLATCHFORD, J.

The grounds set forth in the petition for the relief asked are: 1. That the defendants did not have proper expert testimony on the first hearing. 2. That they have discovered, since the first hearing, that a patent issued to one Louis, prior to the plaintiffs', and set up in their answer as anticipating it, has been twice reissued, one of such reissues having been granted since the first hearing. 3. That since the first hearing, they have learned that said Louis was the inventor of the identical device covered by the plaintiffs' patent, and made and sold many of such devices at least five years before the date of the plaintiffs' patent.

1. The want of proper expert testimony is no ground for granting a rehearing. Application should have been made to the court prior to the first hearing, for opportunity to procure and put in such testimony. No sufficient excuse is shown for not doing so.

2. As to the reissues of the Louis patent, all of them are subsequent in date to the plaintiffs' patent, and can not affect its novelty or validity, if there is nothing in the specification or drawings of the original patent to Louis which affects such novelty or validity, as was decided by the court on the former hearing.

3. As to the alleged newly discovered evidence as to a prior invention by Louis of the plaintiffs' device, the defendants fail to bring themselves within the principle on which amendments of answer after hearing are allowed (*India-Rubber Comb Co. v. Phelps*, 8 Blatch. C. C. 85; 4 Fisher, 315), by showing that they could not, with reasonable diligence, have obtained the testimony which they now wish to adduce, prior to the former hearing. On the contrary, the evidence shows that they could.

4. A careful review of the testimony given by Mrs. Louis,

Hitchcock v. Tremain.

Bioren, and Frail, in regard to the alleged prior invention by Louis, leads to the undoubting conclusion that, whatever he made resembling the plaintiffs' fan in form, location, and operation, was an unsuccessful experiment, so far as he preceded Carpenter in time. The collateral evidence leads to the same conclusion. The patent to Louis, of June 10, 1862, shows that, at that time, he had no invention of a fan external to the air passages. The newspaper publications show no such invention. And the testimony on the part of the plaintiffs is conclusive to show that prior to Carpenter's invention, patented in June, 1865, and even down to 1867, Louis had nothing in the way of an external rotating fan, except what may have been merely experimental, and was not considered by himself to be of any importance compared with other devices he employed to produce a tremolo. This is one of those cases so often met with in the history of patents, where an invention, once perfected, has shown itself to be so useful and so highly appreciated as to have gone at once into so extensive use that it is inherently impossible it should have been known before, and not have gone into general use. Its success leads infringers and rival inventors to set up crude and unsuccessful experiments as anticipating it, and dim recollections are stimulated, and conscience is strained, to clothe with living flesh what was an inert and useless skeleton. /

The prayer of the petition is denied, with costs.

Fisk v. Church.

HENRY G. FISK, THOMAS R. CLARK, AND THOMAS J.
FLAGG

vs.

HEPSABETH C. CHURCH, ADMINISTRATRIX OF SAMUEL B.
CHURCH. IN EQUITY.

The questions involved in the defense of prior knowledge and use are wholly questions of fact, in respect of which the burden rests upon the defendant to make good the defense by satisfactory proof.

The letters patent for a "composite felt suspender-end, composed of felt, combined with a strengthening material," granted to Thomas J. Flagg, September 14, 1869, are valid.

(Before BLATCHFORD, J., Southern District of New York, May, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought on letters patent for an "improvement in suspender-ends," granted to Thomas J. Flagg, September 14, 1869, and assigned to complainants.

The nature of the invention is fully set forth in the opinion.

W. A. Coursen and George Gifford, for complainant.

Stephen D. Law, for defendant.

BLATCHFORD, J.

This suit is brought on letters patent granted to the plaintiffs as assignees of Thomas J. Flagg, the inventor, September 14, 1869, for "an improvement in suspender-ends." The specification says:

"My invention consists of a suspender-end, faced with felt and combined with buckskin, chamois leather, kid, goat-skin, or other strengthening material. In manufacturing my improved article, I prefer to employ a strong, hard felt, such as is used for the manufacture of bonnets, or such as is used in the manufacture of

piano-forte hammers. I paste a sheet of strengthening material to a sheet of such felt by means of wheat-flour paste. I press the composite sheet and permit it to dry. I then cut out the suspender-ends from the composite sheet by means of a cutting-die, whose edge corresponds with the outline of the suspender-ends. I also cut a button-hole in one end of the article by means of a cutting-die of the required form. The article is then sewed with lines of stitching by means of a sewing-machine, the effect of which is to improve the appearance of the article and to combine its members securely. * * * In some cases, I manufacture the articles of two thicknesses of felt, with a layer of goat-skin or kid between them; and, in some cases, a single thickness of felt and a single thickness of chamois leather, with a layer of goat-skin or other strengthening material between the two. In either case, I prefer to conduct the manufacture by first producing a composite sheet by pasting the material together. The faces of the articles may be made of any desired color by using felt dyed of that color. I prefer to employ for my manufacture felt produced without spinning and weaving; but felt produced in part by spinning and weaving will answer the purpose, provided the felting process has been effected so thoroughly that the edges of the articles, when cut, do not ravel. * * * Composite felt suspender-ends, made as above described, have the ornamental appearance and freedom from raveling at the edges of a suspender-end composed wholly of felt, and also the advantage that they do not tend to stain the clothing with which the felt face is in contact, even though the suspender-end be wet with perspiration. They possess, in addition, the advantage incident to the strength of the strengthening material with which the felt is combined. * * * I am aware that suspender-ends have been made of two or more thicknesses of various materials, and therefore I do not claim broadly a suspender-end composed of two materials of every description."

The claim is:

"The composite felt suspender-end, hereinbefore described, composed of felt combined with a strengthening material, the same being a new article of manufacture."

The answer substantially admits the infringement by the defendant, by the sale by him, as agent of the American Suspender

Fisk v. Church.

Company, of suspender-ends composed of felt and leather, constructed as described in the patent. Such infringement is also otherwise proved.

The answer sets up prior knowledge and use of the invention by various persons at the city of New York, particularly one Augustus Pototsky, and others connected with him there, and various persons at Waterbury, Connecticut, particularly one John W. Dayton, and others connected with him there. It also sets up that all the knowledge which Flagg had of the invention was obtained by him from Pototsky, and that Flagg was neither an original nor the first inventor of such invention.

The questions involved in such defenses are wholly questions of fact on the evidence, in respect to which the burden rests on the defendant to make good the defenses by satisfactory proof. This he has failed to do as to all the points involved. It is satisfactorily shown that Flagg made the invention himself, and without any communication of it to him by Pototsky, and that he made it as early as the forepart of October, 1868. This was prior to any invention by Dayton at Waterbury. The defendant has not established that Pototsky knew of the invention before it was made by Flagg, or that Pototsky ever made the invention, or that Pototsky did not first learn of it from or through Flagg. It is enough to state these conclusions. The evidence is voluminous, and no good purpose would be served by a discussion of it in detail.

There must be a decree for the plaintiffs for a perpetual injunction and an account, with costs.

JOHN R. SMITH ET AL.

vs.

WILLIAM E. FRAZER ET AL. IN EQUITY.

A claim for introducing water into the pan of a stone-crushing machine to aid in disintegrating the rock and to cleanse and discharge the pulverized sand, the auxiliary and dependent relations of the water to the mechanism and its co-operative agency being fully set forth in the specification, embodies a patentable subject-matter.

The letters patent of John R. Smith, for improved machine for crushing and washing sand, granted August 27, 1867, are void for want of novelty.

Where the gate in a machine for crushing and cleansing gold ores had been placed in the side of the pan, above the bottom, with a view to discharging the water and lighter impurities, but retaining the gold: *Held*, that if it were desired to discharge the entire contents of the pan, this could so obviously be effected by extending the aperture to the bottom that the change would fall far below the rank of an invention. To conceive and make it would require but a small amount of mechanical knowledge.

If in the notice of special matter relating to the novelty of the patented invention, the sources of defendants' proofs are indicated with such distinctness that the complainant can identify and resort to them, the purpose of that provision of the law which requires the defendant to give the "names and residences of those whom he intends to prove to have possessed a prior knowledge of the thing, and where the thing had been used," is answered.

Where the defendants gave the name of certain mining establishments in a specified county as the places where the prior use of the invention had taken place: *Held*, that they had fairly supplied the complainants with the means of verifying their proofs, and had filled the measure of their legal duty.

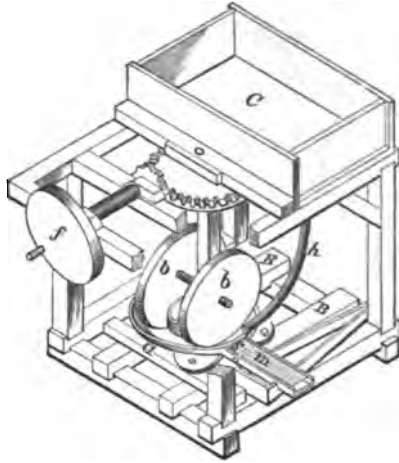
(Before McKENNAN, J., Western District of Pennsylvania, May, 1872.)

FINAL hearing upon pleadings and proofs.

Suit brought upon letters patent for an "improved machine for crushing and washing sand," granted to John R. Smith and William H. Denniston, assignees of John R. Smith, August 27, 1867.

Smith v. Frazer.

The invention will be readily understood by reference to the accompanying engraving, in connection with the claims, which were as follows :



1. The introduction of a stream or flow of water into the crushing-pan of a revolving sand, sand-rock, or sandstone-crusher, to aid the crusher or crushers in disintegrating the rock, and to cleanse and discharge the pulverized sand, substantially in the manner and for the purposes hereinbefore set forth.

2. The rotating and revolving crushing-wheels *b* in a sand-rock crusher, in combination with a crushing-pan, *a*, provided with a discharge-gate, *s*, and a water-supply pipe, *k*, or its equivalent, all constructed and operated substantially as and for the purposes above set forth.

Bakewell & Christy, for complainants.

John Mellon and John H. Bailey, for defendants.

McKENNAN, J.

The first claim of the patent in controversy is for the use of water as a deterrent agent, in connection with the mechanism described in the specification. The functions of the water and its auxiliary and dependent relations to this mechanism, are fully set forth in the specification, which is expressly referred to and made part of the claim. Both are inseparable constituents of a method indicated for the production of a specific result. While each of them has its special office, the co-efficiency of all is expressly stated as necessary to effectuate the patentee's method.

By the words of the specification the patentee purposes to employ only the *co-operative* agency of water, and the patent must, therefore, be construed to claim, not its abstract functions, but the special mode in which, in connection with the mechanical devices described, its power is made available. In this view of the patent, the objection that the claim is for a subject not patentable, is clearly unfounded.

The second claim is for "the rotating and revolving crushing-wheels in a sand-rock crusher in combination with a crushing-pan provided with a discharge-gate, and a water-supply pipe, or its equivalent, all constructed and operated substantially as and for the purposes set forth" in the specification. The invention, then, as here claimed, consists in the combination of the described devices. Each of them had been in use before, and unless the patentee's combination of them is new, and originated with him, he can not recover.

The first claim can not be sustained independently of the second, because, as the use of water in rock-crushing processes was not new, the patentability of its use must depend upon the novelty of the mechanical organization by which its efficiency is made available. Claimed, as it is, as merely an auxiliary agency in the method of operation set forth, the patentee can not assert an exclusive right to its use, except when employed as a co-efficient with the mechanism with which he has inseparably associated it. Both claims must, therefore, stand or fall together.

The invention in question must not be confounded with that of a machine, or of an improvement in a machine, where a difference of operation is to be taken as establishing a difference of construction from previously existing machines. As before stated, it consists of a combination of specified mechanical elements, in aid of which water is used in producing the prescribed result. If the elements of the combination are shown to have been substantially embodied in a crushing-machine previously constructed and used, the patent here can not be sustained.

Upon this point I regard the proofs as decisively against the complainants. To support this conclusion it is sufficient to refer to the testimony of Charles E. Seidel. While acting as superintendent of several mining companies in Louisa county, Virginia, and near Fredericksburg, Virginia, in 1848 to 1852, he used what

Smith v. Frazer.

are known as the Chilian mills for crushing and cleansing ores containing gold. These mills were constructed with two rotating crushing-wheels which revolved in a pan, provided with a hole in its side to wash the sand and *debris* away, and with a constant stream of water flowing into the pan. There can be no doubt, from the explanation given of their construction and mode of operation, that they are substantially identical with machines embodying the invention claimed by the patentee. It is true that their discharge-gate does not extend to the bottom of the pan, so that the gate was adapted to carry off the water with only the lighter impurities suspended in it. And such was its intended function where the machine was used for crushing and cleansing gold ores, and it was desired to retain the particles of gold in the pan; but where it is desired to discharge the whole contents of the pan, it could be so obviously effected by extending the aperture to the bottom that the change would fall far below the rank of an invention. To conceive and make it would require but a moderate degree of mechanical knowledge. Certainly it would evince no patentable merit, and can not, therefore, in any of its relations, be treated as within the protection of a patent.

✓ This evidence is, however, objected to on the ground that the notice of special matter in the answer is not sufficiently specific. The act of Congress requires notice to be given by a defendant of "the names and places of residence of those whom he intends to prove to have possessed a prior knowledge of the thing, and where the same had been used;" and the averment in the answer is, that prior knowledge of the invention claimed and of its use at the works of the Walnut Grove Mining Company, of the Louisa Mining Company, and of the State Hill Mining Company, all in Louisa county, Virginia, and at the works of the Vancieuse Mining Company, near Fredericksburg, Virginia, was possessed by Charles E. Seidel, residing in the city of Pittsburg. ✓

In *Latta v. Shawk*, 1 Fisher, 467, Cincinnati was stated as the place of residence of the witnesses, and Cincinnati, Covington, Newport, Pittsburg, Philadelphia, and Wayne county, Indiana, as the places of use; and the specification was held to be too indefinite, for the reason that it should name the street or factory where the patented structure was used, or that the name of the owner or person using it should have been given.

In *Hays v. Sulzor*, 1 Fisher, 535, the court said: "This provision is designed to give the patentee the benefit of an examination into the facts of the supposed prior use. It has been ruled by the court that the notice given for this purpose in this case was defective in referring merely to the county in which the thing was used. This reference the court held was not sufficiently definite and explicit as to the place to fill the requirements of the spirit of the act." The act was designed to secure the disclosure of specific facts, presumptively without the complainant's knowledge so that the patentee might be informed of the exact nature of the defense set up, and might be enabled to obtain full knowledge of all the facts and circumstances pertaining to it. Where prior knowledge and use are alleged, he must be informed of the name and residence of the person possessing such knowledge, and of the place where such use occurred. But it was not intended to dispense with the necessity of inquiry and research on the part of the patentee. The notice is only a guide to the sources of the defendant's proofs. If they are indicated with such distinctness that the complainant can readily identify and resort to them, the purpose of the law is answered. So in *Phillips v. Page*, 24 How. 168, where the notice set forth the name and place of residence of the person having knowledge of the prior use, and Fitchburg, Massachusetts, as the place of such use, Mr. Justice Nelson said: "The name of the person, and of his place of residence, and the place where it has been used, are sufficient. * * * With this information of the nature and ground of the defense, the plaintiff was in possession of all the knowledge enabling him to make the necessary preparation to rebut, that the defendant possessed to sustain it." And in the cases cited by the complainant's counsel, above referred to, it is evident that the name of a street or factory in a populous city, or of a village or hamlet in a county, were regarded as sufficiently explicit to meet the demands of the act.

Now, in the present case, at least as much precision as these cases seem to require is observed. Not only is the name of the county furnished, but the localities within it of the prior use are precisely indicated by the names of three several mining establishments where it is alleged to have occurred. Thus the respondents have fairly supplied the complainants with the means of veri-

Wing v. Warren.

fyng their proofs, and have filled the measure of their legal duty.

The bill must be dismissed at the cost of the complainants, and it is so decreed.

SIMON WING ET AL.

vs.

W. S. WARREN. IN EQUITY.

Where a patentee had sold all his right, title, and interest in his patent, except as to a single town, and subsequently, at the request of the assignees, had applied for and obtained a reissue of the patent in his own name, which reissued patent he had assigned as before: *Held*, that the surrender of the original patent at the request of the true owners was valid; and that, if the reissue to the patentee was a clerical error, he had corrected it by the subsequent assignment.

(Before CLIFFORD and LOWELL, JJ., District of Massachusetts, June, 1872.)

DEMURRER to bill in equity.

Suit brought upon letters patent for an "improvement in plate-holders for cameras," granted A. S. Southworth in 1855.

The bill alleged the issue of the patent to Southworth, and his subsequent assignment of all his right, title, and interest in it, except the right to make, use, and sell the thing patented in Salem, Massachusetts; that Southworth afterward, at the request of the assignees, surrendered the patent, and the Commissioner of Patents, at the request of all the parties, reissued it to Southworth, who assigned the reissued patent as before; that, on its expiration, in 1869, it was renewed for seven years to Southworth, and that it was then vested in the complainants.

The defendant demurred to the bill on the following grounds:

1. By the assignment of the original patent, Southworth's whole interest passed, and all that was left him was a license for Salem. *Potter v. Holland*, 4 Blatch. 208; *Smith v. Plympton*, 4 West. Law Jour. 51;

Therefore, Southworth could not surrender the patent, and his act assuming to do this was void. The bill says that this was done by request of the assignees, but there is no pretense that this was in writing, as in *Dental Vulcanite Co. v. Wetherbee*, 2 Cliff. 563; 3 Fisher, 87.

3. Even if the surrender was good, the reissue was void, because not made to the true owners. In the case of the Cummings patent, involved in the above-named suit, a similar mistake was made, but it was immediately corrected in the office as a clerical error, and this was held to cure the difficulty.

W. W. Swan, for complainant.

J. E. Maynadier, for defendant.

CLIFFORD, J.

If we grant (which we are not at present prepared to do) that all title had gone out of the patentee by his assignment to Wing and Ormsbee, yet his surrender at the request of the true owners would be valid; and, if the reissue to him was a clerical error, he corrected it at once by an assignment.

We are both of opinion that an infringer can not take advantage of such a mistake, if there was one, after it had been corrected either by the office or the parties.

DEMURRER overruled.

Black v. Thorne.

CHARLES N. BLACK, AS ADMINISTRATOR, ETC., OF MOSES THOMPSON, AND ELIZA W. FITZGERALD, AS ADMINISTRATRIX, ETC., OF WILLIAM P. N. FITZGERALD

vs.

SAMUEL THORNE, JAMES MCFARLANE, AND JONATHAN THORNE, JR. IN EQUITY.

The reissued letters patent for an "improvement in furnaces for burning wet fuel," granted to Moses Thompson, March 31, 1857, the original patent having been granted to him, as inventor, April 10, 1855, and reissued to him, October 7, 1856, and the patent having been extended for seven years from April 10, 1869; and the letters patent for an "improvement in bagasse furnaces," granted to said Thompson, December 15, 1857, and extended for seven years from December 15, 1871, are valid.

The first claim of the reissue of 1857, namely, "using green bagasse, wet tan, wet sawdust, and other wet carbonaceous or vegetable substances, as fuel, for the production of intense heat, by mingling the gases issuing from a highly heated mass thereof, with those arising from carbonaceous combustion, by the intervention of a flue or chamber, with which the chamber or chambers containing the fire and charge of wet substances communicate, and in which said gases meet, mingle, and consume each other, on their way to the apparatus to be heated and to the stack," is a claim to the use of a flue or chamber, intervening between, on the one hand, the chamber or chambers containing the fire or carbonaceous combustion and a highly heated mass of the wet substances named; and, on the other hand, the apparatus to be heated and the stack, for the purpose of mingling, in such chamber, the gases issuing from such highly heated mass with the gases arising from the fire of carbonaceous combustion, so that such gases may consume each other in such flue or chamber, and thus intense heat be produced, by the use, for fuel, of such wet substances.

As the model and drawings of the reissue are the same as those of the original patent, and show such a mingling or mixing chamber as is claimed in such first claim, and such an arrangement of parts as, when used according to the directions of the patentee, with the fuel named, will produce the result described in said claim, and as the specification of the original patent gives substantially the same directions for producing such results as are given in the reissue, such claim is valid.

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Although, in the reissue, the patentee disclaims the arrangement of a series of fire-chambers to communicate with one common flue, irrespective of the purpose for which and the manner in which the arrangement is employed, he can lawfully claim the arrangement which he uses, when used for the purpose for which he employs it, and can lawfully claim it when used in the manner in which he employs it.

The said first claim is for a process carried into effect by an apparatus. The prior apparatus would not have enabled the patentee to work his new process, nor was such process ever worked before in any apparatus.

The second claim of said reissue, namely, "The combustion, for the purposes of a high degree of heat, of bagasse, refuse tan, sawdust, and other wet refuse substances, or very wet and green wood, by the employment of a series of fire-chambers, arranged in any manner, substantially as described, to communicate with one common flue or mixing chamber, when any number of said chambers are nearly closed to the admission of air, when first charged, as described, whilst the remaining chamber or chambers is in full communication with the mixing chamber, and has a proper supply of air admitted; and the ash-pit of each chamber, in its turn, is nearly closed, and then opened, and has air admitted, whereby the heat required is rendered continuous and comparatively uniform, while the fuel in some of the chambers is being heated and decomposed, and its gases sent forward to the mixing chamber, to any desirable degree, as herein set forth," is a claim for an apparatus when employed to work a process, the apparatus and the process being both of them new with the patentee.

The claims of the letters patent granted to said Thompson, December 15, 1857, for an "improvement in bagasse furnaces," are for special constructions to work out more effectually the process of burning wet fuel discovered by Thompson, and made known in his original patent of 1855, and are valid claims.

The form of apparatus shown by Thompson in his drawings, and described, admits of many formal variations within the principle of his inventions and the scope of his claims.

Consideration of constructions which would infringe various claims of Thompson's patents.

Thompson was the first to discover and put in practice the true method of economically burning wet fuels, and obtaining from them better results than from equal quantities of dry fuels.

The point that a cause of action arose in the Northern District of New York, so as not to be cognizable by the Circuit Court for the Southern District of New York, may be voluntarily waived by a defendant, and is waived where, in a suit in equity, it is not raised in the answer.

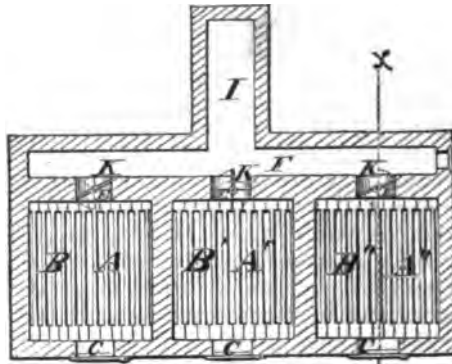
(Before BLATCHFORD, J., Southern District of New York, June, 1872.)

Black v. Thorne.

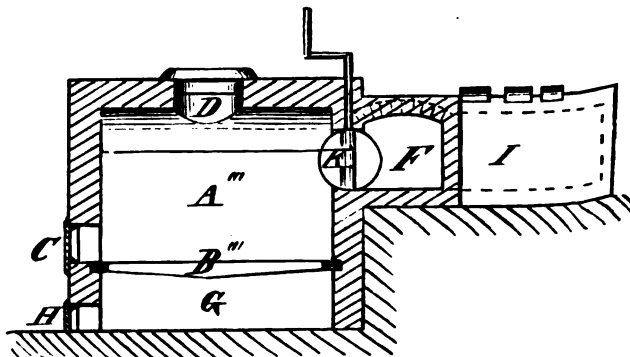
FINAL hearing on pleadings and proofs.

Suit brought upon two letters patent granted to Moses Thompson: one for an "improvement in furnaces for burning wet fuel," granted April 10, 1855; reissued October 7, 1856, and again March 31, 1857, and extended for seven years from April 10, 1869; the other, for an "improvement in bagasse furnaces," granted December 15, 1857, and extended for seven years from December 15, 1871.

PATENT OF 1855.



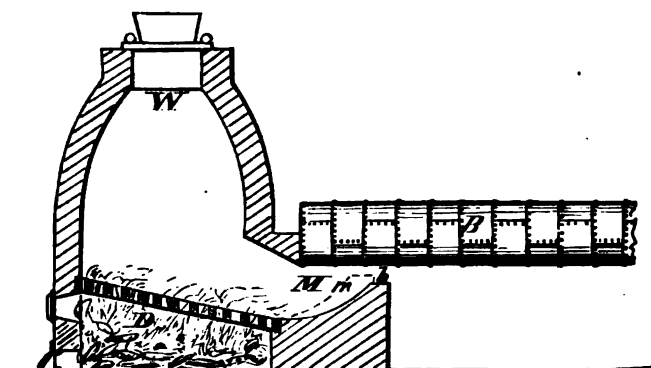
Horizontal Section.



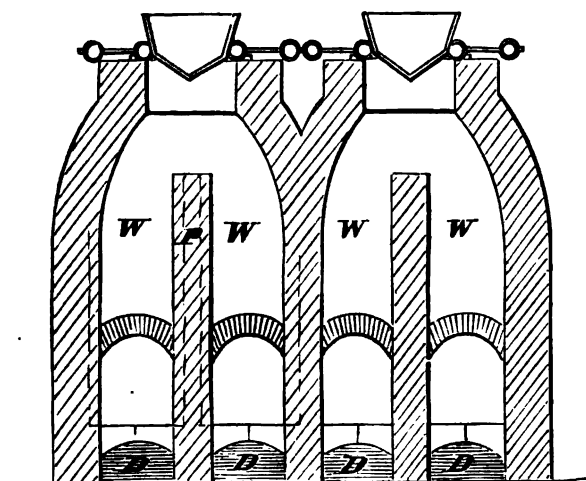
Vertical Section.

The invention which formed the subject of the reissue of March 31, 1857, will be readily understood from the detailed description given in the opinion, in connection with the foregoing engravings.

PATENT OF 1857.

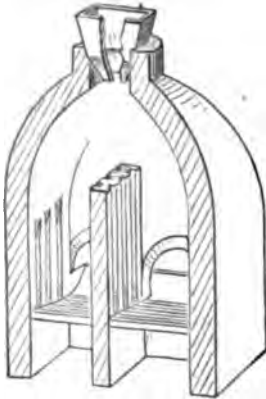


Side Section.



Front Section.

Black v. Thorne.



There were five drawings attached to the patent of December 15, 1857. The last three engravings are copies of three of them, to wit: the sectional side view, the front sectional view, and the sectional perspective view of the interior of one-half of the furnace. These will be fully understood by reference to the description of the invention in the opinion of the court.

Charles N. Black, for complainants.

A. J. Todd and *C. A. Seward*, for defendants.

BLATCHFORD, J.

This suit is brought on two patents. The first is a reissued patent, granted to Moses Thompson, March 31, 1857, for an "improvement in furnaces for burning wet fuel," the original patent having been granted to him, as inventor, April 10, 1855, and reissued to him October 7, 1856. The application for the original patent was filed November 14, 1853, the specification having been sworn to November 9, 1853; and a caveat, describing substantially the invention patented, was filed August 12, 1853. This patent was extended April 8, 1869, for seven years from April 10, 1869, by the Commissioner of Patents.

The second patent is one granted to the same Moses Thompson, December 15, 1857, for an "improvement in bagasse furnaces." The application for this patent was filed May 13, 1857, a previous application filed on the same model, in February, 1857, having been rejected. On an interference declared between the application of Thompson and a patent granted to A. Hager and S. Allyn, for an "improved bagasse furnace," May 6, 1856, priority of invention was decided in favor of Thompson, November 30, 1857. This interference related to what is the second claim in the patent granted to Thompson, December 15, 1857. This patent was, on

December 14, 1871, extended for seven years from December 15, 1871, by the Commissioner of Patents.

The contest between the parties to this suit has been very severe. The suit was brought after the extension of the 1855 patent, and before the extension of the 1857 patent. The extension of the 1857 patent was strenuously opposed by the same parties who have conducted the defense of this suit, and on substantially the same evidence, on the question of the novelty of the inventions covered by that patent, which is adduced on the same question in this suit. It appears, from a paper in evidence, that seventeen different persons and firms, including the defendants, representing thirty-eight tanneries, including the three tanneries involved in this suit, have joined together to resist the claim of the plaintiffs under the said patents, agreeing to share, *pro rata*, all legal expenses incurred in defending against said patents. The defense of this suit has been conducted under that arrangement.

The answer sets up, that the 1857 reissue of the 1855 patent was obtained by Thompson for the purpose of further including therein, and did include therein, more than Thompson originally contemplated, specified or showed to be his alleged invention, on the application for his original patent, and matter which he had no right to include and claim therein, and that such reissue is not for the same invention as the original patent of 1855, but is for inventions and things substantially and materially different. It also sets up, that the first claim of such reissue is invalid, because it is indefinite and equivocal, and does not refer to the process specified and described in the language preceding said claim. It avers, that the extension of the 1855 patent was obtained by misrepresentation and fraud, and denies any infringement of either patent. It sets up want of novelty in regard to both patents, and specifies, in respect to each, prior knowledge by nineteen persons, and prior description in eight printed publications, fourteen English patents, and two United States patents. Twenty-six witnesses have been examined on the part of the defendants, and twenty-one on the part of the plaintiffs. Of these, two on each side are chemical experts: Benjamin Silliman and William H. Plumb for the plaintiffs, and Charles F. Chandler and Adolph Faber du Faur for the defendants. The printed case on the part of the plaintiffs covers over six hundred printed pages. That on

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the part of the defendants covers nearly one thousand printed pages. The direct examination of the plaintiffs' experts occupied six days, and covers sixty-five printed pages, embracing seventy-six interrogatories. The cross-examination of those experts occupied twenty-five days, and covers two hundred and seventy-two printed pages, embracing six hundred and five interrogatories. The direct examination of the defendants' expert, Du Faur, occupied six days, and covers fifty-six printed pages, embracing one hundred and fifteen interrogatories. The cross-examination of the same expert occupied seven days, and covers sixty-seven printed pages, embracing three hundred and thirty-one interrogatories. The direct examination of the defendants' expert, Chandler, covers fifteen printed pages, embracing thirty-two interrogatories. He was not cross-examined. These observations are made for the purpose of showing how thorough has been the investigation of the questions at issue.

The title of the reissued patent of 1857 is, "an improvement in furnaces for burning wet fuel." The specification states the invention to be one of "improvements in burning tan-bark, bagasse, sawdust, and other kinds of fuel, in a wet state, for the purpose of creating heat to generate steam, or to be employed in heating or drying operations." Bagasse is crushed sugar-cane. There are two figures of drawings accompanying the specification. One is a horizontal section of a furnace constructed according to the invention. The other is a vertical section of the same. The specification states, that the main object of the invention is, "to effect the more economical use, for fuel, of tan-bark, bagasse, or other trashy matter, in a wet state, or very green or wet wood." The furnace shown in the drawings has three fire-chambers. The patentee states that he considers three, "in many cases, to be best adapted to practical operation." He proceeds: "In some cases, two may be sufficient, and, in others, more or less. In making these variations as to the number of chambers, the builder is to be guided by the quantity of heat required, size of chambers, and character of fuel to be used. The fire-chambers are of a square, but may be of other form, with grate bottoms, B, B', B'', and arched tops, or said tops may be used or built of any other form adapted to the kind of fuel to be used. They are separated by a wall of fire-proof material, and lined throughout with fire-brick,

Black & Thorne.

and, in case of burning wet tan or bagasse, fire-brick grates should be used. Each burning chamber is provided with a door, C, in front, for the purpose of lighting and tending the fire; with an opening, D, at the top, for the purpose of supplying the fuel, and with an opening, E, at the back end of the chamber, which leads to the flue, F, or the mixing chamber. The opening may be provided with a damper, K. Each fire-chamber has a separate ash-pit, G, below it, which is furnished with a door, H, to regulate the admission of air. The flue or mixing chamber, F, extends across the back of all the three fire-chambers; and the chimney may be at one end, or may be placed in the rear, with the flue, I, leading to it from the flue, F. If the furnace is used for generating steam, the best place for the boilers will be in flue, I, which will be made of a proper size to receive and nearly surround it. If used for other purposes, any arrangement may be made best adapted to the application of said heat. The thing to be heated ought to be placed a little above the inside top of the mixing chambers. The current from the mixing chamber, in passing to the place of use, should descend or pass under a bridge to the place of use, equal to about one-half of the depth of the mixing chamber, then rise to the place of use. In case of nearly-dry fuel, such as green wood and sawdust, the current should rise, immediately after leaving the burning chamber, through the mixing chamber, to the place of use; and the flue, E, leading out of the fuel chamber, A, into the flue or mixing chamber, F, should be increased to about threefold capacity of that used for very wet fuels, to be varied in proportion to the wetness or dryness of said fuel. In case of burning of sawdust or green or wet wood, the chambers should be about double the grate surface of what is commonly used for burning of wood to accomplish the same object; but for wet tan it should be increased to about fourfold; and in case of burning bagasse it should be increased about sixfold, and the height of the chamber increased so that the grate may be covered by feeding at the top. The mode of conducting the operation of the furnace is as follows: Fires being lighted in all of the fire-chambers, with dry fuel, and the masonry heated to a high degree, two of the three chambers, A, A', are fed with wet fuel, and have their ash-pits closed, and the dampers, K, K, partially closed, though this latter is not absolutely necessary. The other fire-chamber, having its charge partially dry in the

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meantime, has the damper, K, opened, and the door of the ash-pit, H, opened far enough to admit any quantity of air which may be required to promote such a degree of combustion as may be necessary to generate the amount of heat required. There should be no artificial blast, and, if a high stack be used, there should be a damper in it, to moderate the draft. When the fuel in the open chamber is reduced to a desirable degree, its ash-pit is closed, and the chamber recharged, and another opened and supplied with air, until the fuel within is reduced, when it is closed, recharged and another opened; each, in its turn, being opened and supplied with air, to generate and supply the requisite amount of heat and carbonaceous gases, while the others are closed and successively supplied with fresh fuel, to heat and decompose the same to such a degree as is desirable before allowing rapid combustion to take place. Each fire-chamber should be supplied successively with fuel at proper intervals, by any convenient means, either through the hole, D, or door, C, in front. The principal advantage of a furnace and process of this description consists in heating the wet charge without unnecessary waste of heat, decomposing it into such gases as will, when mingled, in the mixing chamber, with the products of combustion from the active chamber, cause the most perfect combustion of the gases and smoke to be effected. This perfect combustion could not be effected in a single fire-chamber; but, when two or more fire-chambers are employed, no interruption takes place, and the object is readily attained. Another advantage consists in always holding a certain quantity of heat and highly heated fuel in reserve in the closed chambers, which may be immediately brought into action by opening one or more of the chambers. A similar but inferior result might be produced by having several grates and ash-pits to the same fire-chamber, each grate charged successively, and its ash-pit for the time closed, immediately after fresh charging, to exclude the air. I have described this in my caveat on which my application is based, but do not use it because of its inferiority in practice, although it involves my principle. After ample experiments, I have discovered that any results which can be produced by the use of dry fuel are inferior to wet, in proportion to quantity used, and that results like mine can only be attained by the use of wet fuel, similar to what I have

herein mentioned, fed into an intensely heated chamber. Under such circumstances, the water in the fuel, in the presence of the carbonaceous substances in the furnace, will be decomposed, giving its oxygen to the carbonaceous matter, dispensing with a draft, and its cooling and wasteful influence, and rendering the combustion so perfect that no smoke is visible. In burning tan and sawdust, where a large quantity of heat is to be made, in order to save the increase of their number, I put the chambers in twice as long as wide, and use two openings, D, to feed through, and thereby accomplish double to each chamber." Then follows this disclaimer: "I do not claim the within-described arrangement of a series of fire-chambers to communicate with one common flue, irrespective of the purpose for which, and the manner in which, I employ the said arrangement." The claims are these: 1. "Using green bagasse, wet tan, wet sawdust, and other wet carbonaceous or vegetable substances, as fuel, for the production of intense heat, by mingling the gases issuing from a highly heated mass thereof, with those arising from carbonaceous combustion, by the intervention of a flue or chamber, with which the chamber or chambers containing the fire and charge of wet substances communicate, and in which said gases meet, mingle, and consume each other, on their way to the apparatus to be heated and to the stack." 2. "The combustion, for the purposes of a high degree of heat, of bagasse, refuse tan, sawdust, and other wet refuse substances, or very wet and green wood, by the employment of a series of fire-chambers arranged, in any manner substantially as described, to communicate with one common flue or mixing chamber, when any number of said chambers are nearly closed to the admission of air when first charged, as described, whilst the remaining chamber or chambers is in full communication with the mixing chamber, and has a proper supply of air admitted, and the ash-pit of each chamber, in its turn, is nearly closed, and then opened, and has air admitted, whereby the heat required is rendered continuous and comparatively uniform, while the fuel in some of the chambers is being heated and decomposed, and its gases sent forward to the mixing chamber, to any desirable degree, as herein set forth."

It will be proper, in the first place, to consider the objections that are made to the reissued patent of 1857. It is contended,

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that the first claim of the reissue is void, because the invention claimed in it is not found in the original patent of 1855. That claim is a claim to the use of a flue or chamber, intervening between, on the one hand, the chamber or chambers containing the fire of carbonaceous combustion and a highly heated mass of the wet substances named, and, on the other hand, the apparatus to be heated and the stack, for the purpose of mingling in such chamber the gases issuing from such highly heated mass with the gases arising from the fire of carbonaceous combustion, so that such gases may consume each other in such flue or chamber, and thus intense heat be produced, by the use, for fuel, of such wet substances. The model and drawings of the reissue are the same as of the original patent. Such model and drawings show such a mingling or mixing chamber as is claimed, and show such an arrangement of parts, as, when used according to the directions of the patentee, with the fuel named, will produce the result described in the claim, of mingling and consuming, in such chamber, the gases mentioned, and producing intense heat. The specification of the original patent of 1855 gives substantially the same directions for producing such result as are given in the reissue of 1857. Those directions are, that, taking the use of three fire-chambers, for illustration, in burning wet fuel, two of the fire-chambers have their ash-pits closed and their dampers partly closed, while the third fire-chamber has its damper open and its ash-pit open, so far as necessary to produce the requisite combustion in that chamber, to produce the degree of heat desired; that when, by such combustion in the open chamber, its fuel is reduced, it is recharged with wet fuel and closed, and one of the above chambers is opened for combustion; that so, in turn, each chamber is opened and supplied with air, to make it a burning chamber and generate carbonaceous gases, and is then supplied with wet fuel and closed, so as to heat and decompose such fuel before admitting air freely to it; that the chambers are thus supplied with wet fuel in succession; that this carrying out of the process by using two or more fire-chambers, with such a construction of apparatus and flues as is shown in the drawings, will effect the most perfect combustion of the gases generated in the chambers, and enable a proper supply of heat to be yielded uninterruptedly; that the use of a single fire-chamber will not produce

such a perfect result, nor an uninterrupted supply of heat, although an inferior result, within the principle, may be produced, by using a single fire-chamber, with several grates and ash-pits, and charging the several grates in succession, excluding the air from the charged grate, until the charge is in a condition for rapid combustion; that, by such use of wet fuel, fed into an intensely heated chamber, better results can be obtained than can be from an equal quantity of dry fuel; and that the principle of the operation is, that the products of the carbonaceous combustion in the rapid combustion chamber, being present with the gases arising from the decomposition of the wet fuel in the heating chamber, will decompose the vapor of the water, and cause it to yield up its oxygen, so that a perfect combustion will be produced, without such a draft being used, as had ordinarily been employed for like fuel. All this is disclosed in the specification and drawings of the original patent, and is repeated in the specification of the reissue. The claims of the reissue are both of them fully warranted by what appears in the specification and drawings of the original patent. The inventor failed to claim, in his original patent, all that his original specification and drawings would have warranted him in then claiming.

It is also objected to the reissued patent of 1857 that, as the patentee disclaims the arrangement of a series of fire-chambers to communicate with a common flue, irrespective of the purpose for which and the manner in which he employs such arrangement, he can not lawfully claim the arrangement which he uses, when used for the purpose for which he employs it, and can not lawfully claim it used in the manner in which he employs it. Fire-chambers in a series, communicating with a common flue, existed before; but the patentee's process was not carried out in any of such prior structures, nor was such common flue used as a mixing chamber in any of them. The first claim of the reissue is for a process carried into effect by an apparatus. The prior apparatus would not have enabled the patentee to work his new process, nor was such new process ever worked before in any apparatus. The second claim of the reissue is for an apparatus when employed to work a process, the apparatus and the process being both of them new with the patentee. It is not perceived

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how any tenable objection can be taken to the validity of either claim. The disclaimer does not admit that the patentee's arrangement existed before, although he disclaims it irrespective of the purpose and manner of his use of it.

Passing now to the patent of December, 1857, the invention therein is stated, in the specification, to be "improvements in furnaces for using, as fuel, bagasse, wet tan, and other carbonaceous substances too wet to be conveniently burned in the usual way." Five figures of drawings are given: a front view of the patentee's furnace; a sectional side view, showing the interior thereof, and the charge of wet fuel, etc.; a front sectional view; a horizontal view of the grate, and a sectional perspective view of the interior. The specification says: "The leading object of my invention is to use, as far as possible, the hot vapors driven out of the wet mass, while drying, instead of cold common air, to support and complete the combustion of the carbonaceous portions of the wet fuel. Bagasse and other wet fuels might be advantageously burned in one furnace, but results are much more uniform and reliable when two are used, discharging their gases into a common mixing chamber, and I therefore prefer to use two or more. The grate surface and the height of the furnace should be regulated according to the kind and wetness of the fuel. The wetter the fuel, the larger the furnace, and the smaller the mixing chamber should be." Then follow directions for the sizes of furnaces for burning bagasse. "For burning refuse tan and sawdust, I think it better to make the furnace longer and narrower, with two fuel openings on the top; and, for a furnace five feet wide and ten feet long, I would make the height, from the bottom of the fire-chamber to the top of the wet-fuel chamber, about five feet. The bottom of the grate I would place about two feet above the hearth; but wet fuels differ so much in character and wetness, that it is impossible to give precise dimensions. The furnace I propose to describe is particularly calculated to consume bagasse. I build two furnaces side by side, each nearly square in its horizontal section. Toward the top I draw in the wall, in such manner as to form a kind of dome, with a sufficient opening at the top to feed the bagasse. The outer walls of these furnaces should be from twenty-four to thirty inches thick, and built with a special view to rendering them non-conducting. The wall near the top

and the partition between the two furnaces may be thinner. In each furnace chamber there should be a partition of fire-brick, extending across it from front to back, and rising nearly to the top, dividing it into two nearly equal parts. The whole interior of the furnace should be of fire-brick. The main chamber of each furnace should be divided into two parts, upper and lower, by a fire-brick grate about one-fifth the height of the furnace above the hearth, the back end of the grate being a little lower than the front. The bottom of the lower chamber may be a grate with an ash-pit, but a hearth is much better. In each furnace, at the front, on each side of the central partition, and immediately under the front end of the grate, should be doors for feeding wood or other dry fuel; and, directly under these doors, at the hearth of the lower chamber, should be draft openings, capable of adjustment, to support combustion in the lower chamber. Extending across the back of both furnaces, and opening into both by flues, is a mixing chamber, into which all the gases from both furnaces enter, in a highly heated state, and mix and consume each other, on their way to the boiler and stack. This chamber should be about one-half the capacity of all the fire-chambers, and it should extend down about as low as the back end of the grate. The flue through which the products of combustion pass out of this chamber and under the boiler should be, in section, about one square foot to forty cubic feet of mixing chamber. The feed openings at the top of the furnaces should be closed by doors, which open inward by the weight of the feed, but are self-closing, and do not yield to pressure from within." Then follows a description of up and down corrugations in the interior of each upper chamber, on each side, down to the grate, which are stated to be unnecessary in burning tan and sawdust, and to be "for the purpose of allowing the heat to radiate upward from the fire-chamber, for heating the masonry and the wet charge, while the gases or vapors driven out of the wet charge by the heat are allowed to descend to the fire-chamber or the mixing chamber." "The spaces between the grate bars, for burning bagasse, should be about six inches wide for the finest grinding, and twenty inches wide for the coarsest, and should vary between these widths according to the fineness of grinding, but, for sawdust and tan, much less, say from one inch to three-quarters of an inch. The

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grate should be made of fire-brick. The operation of my furnace is as follows: A hot fire of dry fuel is kindled in the lower fire-chambers of the furnaces, and, after it has been continued until the masonry is well heated, the chamber above the grate is fed with the bagasse or other wet fuel. This hot fire in the fire-chamber, especially toward the front of it, under the principal mass of the wet fuel, must be preserved throughout the operation. The heat from the masonry and the fire-chamber will be communicated to the wet fuel, which will cause steam and other gases to issue from it, and mix with the intensely hot gases of combustion from the fire-chambers; and in a short time the mixing chamber will present intense combustion and heat, the dampers of the fire-chambers being partially closed. The lower part of the wet charge will, by degrees, become dry and charred, and will fall through the grate, prepared as above, into the fire-chamber, and supply, or nearly supply, the place of other dry fuel in preserving the fire in this chamber; and the wet fuel, being from time to time supplied, will furnish, in a highly heated state, aqueous vapors, which, descending through the corrugations, and otherwise, into the fire-chamber and mixing chamber, will be decomposed, furnishing much oxygen to the fire, and supply the oxygen necessary to complete, in the mixing chamber, the combustion of all the combustible gases issuing from the fire-chamber. If, by accident, the fire in the lower part of the furnace should predominate, the draft should be diminished, and more wet fuel added; and, if by accident, the fire in the fire-chamber should become too much cooled down, the draft should be let on, and any deficiency of dry fuel should be supplied to the fire-chamber. Under proper management, little or no dry fuel need be fed to the fire-chamber after the operation is fairly commenced. The charred matter falling through the open grate will supply its place, and the caloric thus produced by the combustion of wet fuel will be vastly greater than from the same quantity, by measure, of the same fuel, when dry. In the fire-chamber, and in the mixing chamber, under intense heat, the carbonaceous gases will decompose the steam from the wet fuel, and effect complete combustion. When the operation is fairly commenced, if the water in the wet charge amounts to, say, fifty per cent., by weight of the fuel, the dampers of the fire-chambers should be nearly or quite closed, to exclude the air.

Vapor from the wet charge will then descend through the corrugations, and otherwise, into the fire-chambers, and support the combustion therein, while other portions of the vapor will enter the mixing chamber, and complete the combustion there. If the fuel, however, contains much smaller quantities of water, more air in proportion should be admitted at the damper, the object being to admit no more air than will supply the deficiency of the vapor." Then follow written references to the drawings. "Little, if any, of the boiler should extend over the mixing chamber. If any considerable portion of the mixing chamber is covered by the boiler, its cooling influence will prevent the decomposition of the vapor, and defeat the object of my invention. Great care should be observed in giving proper dimensions to the mixing chamber, for the perfection of the combustion and the efficiency of the furnace depend greatly upon it. The principal object of this chamber is to give the combustible carbonaceous gases from the fire, and the aqueous gases from the mass of wet fuel, an opportunity of mingling together in such a manner, and under such circumstances, that the aqueous vapor will be decomposed by the carbonaceous gases, and its oxygen given out, to complete the combustion of the carbon, without the introduction of air into the mixing chamber, thus saving the caloric previously communicated to the wet charge, while drying it and charring its lower portions, and avoiding the cooling influences of cold air. This can take place effectually only in the presence of a high degree of heat, and in the absence of a supply of free oxygen. If that chamber be too small to receive these gases as fast as the furnace is able to produce them, the operation will, of course, be choked and impeded. If the chamber is larger than can be kept densely filled with these gases, of course atmospheric air will be found there at the commencement, and will continue to find its way into the chamber, and, while atmospheric air is present, the carbonaceous gases will take its oxygen from that principally, instead of decomposing the steam, and the heat in the chamber will be much diminished; and the large quantity of nitrogen (four-fifths) contained in the air, which is neither a combustible nor a supporter of combustion, will at once greatly increase the volume of gases to be sent forward to the stack, and proportionably decrease its temperature; and, when the chamber becomes very large, the

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cooling influences become so great that combustion will immediately cease, and smoke, mingled with steam, oxygen, and nitrogen, will go forward, thus wasting the fuel, and imparting a faint degree of heat to the boiler. I have, therefore, fixed the size of the mixing chamber by many careful experiments, and that given above will produce the desired effect with wet bagasse. For drier fuel, furnishing less vapor, the mixing chamber should be proportionably increased in size, to supply the deficiency with air, and to effect complete combustion. Rules more precise would be inconsistent with the nature of the subject. A large and hot fire should always be preserved in the fire-chamber below the grate, and directly under the charge of wet fuel, for the purpose of driving the vapor out of it and charring its lower portion; and the grate is left much more open than in furnaces for burning dry fuel of the same size, for the purpose of allowing the charred portions of the wet charge to fall through, to supply fuel for this fire, as fast as it becomes fit for that purpose, thus consuming the mass with little or no expenditure of other fuel." The claims are: 1. "The combination of two chambers, the one above the other, and separated by a grate, the lower one for the combustion of any known dry carbonaceous fuel, and the upper one, in immediate proximity therewith, to receive heat therefrom for heating and drying the charge of wet fuel, with a mixing chamber into which both continuously and simultaneously discharge their gases, before reaching the thing to be heated, for mingling and mutual combustion." 2. "In combination with said fire-chamber and wet-fuel chamber, or drying chamber, making the grate upon which the wet charge rests sufficiently open to allow the lower portion of the wet charge, as it becomes dried and charred, to fall through into the fire-chamber, and keep a hot fire therein, supplying the place of other dry fuel, while the uncharred portion of the wet fuel is properly supported by the grate till dried, as described." 3. "Placing the mixing chamber of combustion in substantially the same position described relatively to the fire and the wet charge, so that the products of combustion from the dry fuel may pass along the lower part of the wet charge, drying and charring it, on their way to the mixing chamber, and reach it without being, in any considerable degree, obstructed or cooled by the wet charge, substantially as shown." It is added: "I wish

it distinctly understood that I make no claim to any of the parts or combinations above specified, except in their application to the preparation and combustion of wet fuels."

The principle developed in the first claim of the reissue of 1857 is worked out in the furnace and method of procedure described in the patent of 1857, but the claims of the two patents are different. The claims of the patent of 1857 are for special constructions to work out more effectually the process of burning wet fuel discovered by Thompson, and made known in his original patent of 1855. The first furnace constructed by Thompson on his principle was built at Richmond, Virginia, in August, 1853, and was then and there used successfully in burning wet tan. In 1854, he built a furnace on this plan, at Weed's tannery at Binghampton, New York. Others were built after its pattern at various places in New York, and the furnaces used by the defendants are traced, in their origin, to the furnace so built at Binghampton. It is very manifest, from the language of Thompson's specifications, and from the testimony, that the form of apparatus shown by Thompson in his drawings and described, admits of many formal variations, within the principle of his inventions and the scope of his claims. Thus, a single furnace, with an upper chamber and a lower chamber, separated by a grate and sufficiently long to admit of two feed holes in the top, with a proper mixing chamber, and operated so as to produce, in such chamber, the mingling and consumption of the gases from the wet fuel in the upper chamber with the gases from carbonaceous combustion, would infringe the first claim of the reissue of 1857. Such a construction, with the lower chamber used for the combustion of dry carbonaceous fuel, and so operated as to cause the gases from both chambers to be continuously and simultaneously discharged into the mixing chamber, for mingling and mutual combustion, would infringe the first and third claims of the patent of 1857. A single furnace, with the grate between the upper and lower chambers so open as to allow the lower portion of the wet charge, as dried and charred, to fall through into the lower chamber, and keep a hot fire therein, the uncharred portion of the wet charge being supported by the grate, would infringe the second claim of the patent of 1857. So, also, various constructions of mixing chambers may be made, which would be substantial equivalents for the mixing chamber

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of the form and location shown by Thompson, and would be the mixing chamber of each of his two claims in the reissue of 1857, and of the first and third claims of his patent of 1857.

It is satisfactorily shown, that the wet-tan furnaces of the defendants, in their tanneries at Albion, Laporte, and Thorndale, which are the three proceeded against, infringe each of the patents. All of the claims of each patent are infringed by the furnaces at Albion and Laporte, and all except, perhaps, the second claim of the reissue of 1857, are infringed by the furnace at Thorndale.

The claims of the Thompson patents are none of them successfully attacked on the ground of a want of novelty. There is nothing in the Crockett furnace, or the Morrison furnace, or the Woodstock, Sparrowbush, or Newark furnaces, or any of the other American furnaces adduced in evidence, so far as such furnaces are shown to have existed in construction, or in description or drawings, before the dates of Thompson's inventions, which destroys the novelty of those inventions. So far as such furnaces burned wet fuel successfully, before Thompson's inventions, to what extent they did, they did so on different principles from those developed by him, and in structures arranged and operated in a manner not embraced in his claims. In regard to all the foreign patents and publications put in evidence, it is sufficient to say, that they none of them anticipate Thompson's inventions. It is not an unimportant consideration, that both of his patents have been extended by the Patent Office, after, as there is every reason to believe, a full consideration of substantially everything, on the question of novelty, that is brought up in defense in this suit.

It is apparent, from the evidence, that Thompson was the first to discover and put in practice the true method of economically burning wet fuels, and obtaining from them better results than from equal quantities of dry fuels. In respect to the tanning business, tanners can, by his inventions, certainly obtain all the heat they need by the use of no other fuel than their spent tan, wet from the leaches. The combined resistance by them to his patents is a tribute to the merits of his inventions.

I have examined, with care, all the evidence taken in this case, and considered the views advanced by the counsel for the defend-

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ants, but I am unable to resist the conclusion that the plaintiffs have fully established their case.

As to the point, that the cause of action respecting the furnace at Albion arose in the Northern District of New York, where that furnace is situated, the objection is one which may be voluntarily waived. The defendants in this case have waived it by not raising it in their answer.

There must be a decree for the plaintiffs, for a perpetual injunction, and an account, with costs.

EDWARD S. RENWICK ET AL.

vs.

CHARLES H. POND. IN EQUITY.

The reissued letters patent for an "improvement in breech-loading fire-arms," granted to William C. Hicks, March 1, 1870, the original patent having been granted to Hicks, as inventor, March 10, 1857, are valid.

Hicks was the first person who devised a practical mechanism for certainly withdrawing a loaded cartridge from its chamber, in a breech-loading fire-arm, under all conditions, as well when its rim or flange has not been expanded by the blow of a striking instrument, as when it has been so expanded, by effecting such withdrawal, through the engagement, within the periphery of such chamber, of a hook, actuated automatically, with a metallic flange forming part of the cartridge.

Although the patent describes the invention as applied to a cartridge, the flange of which radiates inwardly toward the longitudinal axis of the cartridge, and describes the hook as a rigid hook, and the flange as springing, to engage with the hook, yet an arm in which a cartridge is used, the flange of which radiates outwardly from the longitudinal axis of the cartridge, and is rigid, and in which the hook springs, to engage with the flange, infringes the first three claims of such patent, providing such arm has a breech-closing piece moving longitudinally with the barrel, a cartridge-chamber at the butt of the barrel, and a reciprocating extracting hook, arranged in such manner that, when the breech is closed by the forward movement of the closing piece, the bill of the hook is within the periphery of such chamber, and, being

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in its most forward position, is in advance of the rear of the space in which the cartridge is received, so as to engage with the unexpanded front side of the flange of the cartridge, and only one side of the flange is engaged with the bill of the hook, avoiding any difficulty in disengaging the cartridge.

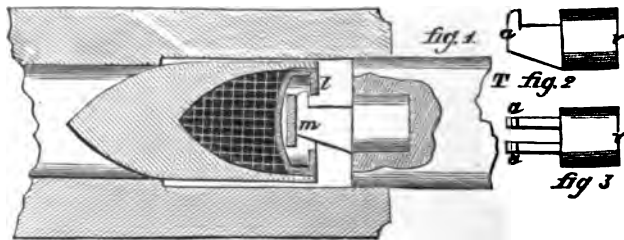
Claiming the arrangement of a combination, when the arrangement is such as to produce a given mechanical result of the combination, is not a claim to a function, nor is it a claim to a result, irrespective of the means of producing it; but it is a claim to the means alone, and only when specially arranged to produce a given result.

In order to infringe the patent, it is not necessary to use a cartridge, if an arm be sold, capable of being and designed to be used to effect the result of the patent, by the means specified in its claims, and requiring only the addition of the cartridge by the purchaser.

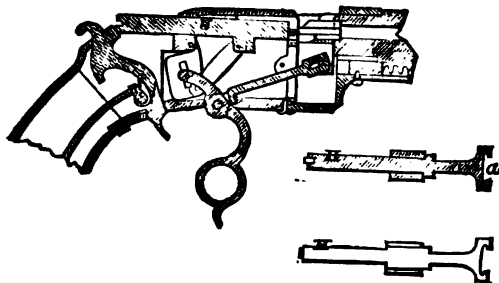
(Before BLATCHFORD, J., Southern District of New York, June, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for "improvement in breech-loading fire-arms," granted to William C. Hicks, March 10, 1857; reissued May 9, 1865, again January 18, 1870, and again March 1, 1870. The patent was extended for seven years from March 10, 1871, but the bill was not founded on the extension.



In the foregoing engraving, which represents the invention of Hicks, the extracting hook is shown at *m*, fig. 1, and at *a*, figs. 2 and 3. In fig. 3 the hook is double. This hook is so constructed as to slip by the flange of the cartridge, shown at *l*, fig. 1, when pressed against it, and to engage with the flange in such manner that when the hook is withdrawn the cartridge is also extracted. The hook likewise serves as the striking instrument for firing the cartridge.



The above engraving represents the Smith & Wesson pistol of 1854. The retractor consisted of the branched rod, H, constructed as shown at *a*, so that the head of the cartridge would pass within the catches without engaging with them. When, however, the piece was fired, the blow of the striking instrument caused the head of the cartridge, which was spherical, to expand, so as to fill the space between the catches, by which it could then be extracted.

The extractor of the Morse gun, as well as that of defendant's, engaged the cartridge on the periphery of the flange, which was turned outward from the body, by means of a spring catch or catches, which slipped over the flange and permitted the withdrawal of the cartridge.

E. W. Stoughton and George Gifford, for complainants.

J. S. Beach and C. M. Keller, for defendant.

BLATCHFORD, J.

This suit is founded on reissued letters patent granted to William C. Hicks, March 1, 1870, for an "improvement in breech-loading fire-arms." The original patent was granted to Hicks, as inventor, March 10, 1857, and was reissued to him May 9, 1865, and again January 18, 1870. On February 27, 1871, the patent was extended for seven years from March 10, 1871. This bill was filed in May, 1870, and is not founded on the extension.

The specification states that the object of the invention "is, primarily, to extract from the breech of a fire-arm, the cartridge, or the remnant thereof which remains after firing; and, secondarily, to secure the explosion of the percussion primer;" that, to this end, the invention "consists of certain combinations and ar-

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rangements of one or more extracting hooks, the reciprocating breech-pin or breech-closer of a fire-arm, and the chamber in the breech of a fire-arm, in which the cartridge is received;" that the invention is "applicable to breech-loading fire-arms of various constructions," and reference is made, "in order that it may be fully understood, to a pistol manufactured, at the time of the invention, by the Volcanic Repeating Arms Company, with Hicks' improvements applied thereto, "said pistol being, in other respects, substantially the same as that described in the patent granted to Horace Smith and D. B. Wesson, February 14, 1854." The specification then describes, with references to the drawings, the parts of such pistol which are important to an understanding of the invention. The pistol has a barrel constructed to be loaded, at the breech, with a cartridge which has at its butt an internal brass flange, which flange, being elastic, yields when pushed forward by an inclined instrument, and tends to regain its original form when the instrument has passed by it. The powder is in a cavity in the ball. Next the powder is a steel disk, and the percussion primer is placed against such disk and between it and a thin disk of cork. The barrel of the pistol has an enlarged chamber at its rear end for the reception of the cartridge, the chamber being deep enough to receive within it the entire cartridge, including the flange. The cartridge is pushed into the chamber by means of the breech-pin, operated by a lever which moves the breech-pin and its connections to and fro. The pistol is fired by a hammer, which operates, through the intervention of the breech-pin and its appurtenances, on the primer in the cartridge. The forward end of the breech-pin carries the extracting hook or hooks. Where two are used, they are side by side, each arranged to act at one side only of the flange of the cartridge, their bills both pointing in the same direction, so that, when the cartridge is withdrawn from the chamber, it may be readily disengaged from the bills of the hooks by moving the cartridge in the plane of the profiles of the hooks, which could not be readily done if two hooks, when used, were arranged at opposite sides of the cartridge-flange, so as to hold the cartridge between them. The specification states that the application of the extracting hook to the forward end of the breech-pin constitutes no part of the invention, and that the hook is used as the striking instrument, for

striking the percussion primer, in addition to performing its function of extracting the cartridge. As the flange of the cartridge used with the pistol is made of elastic metal, which will yield to permit the hooks to pass by it, they are made rigid by being formed upon a cylindrical plug or stock, and are connected with the breech-pin by driving said stock into a socket formed in the front end of the breech-pin. As the breech-pin is connected with a lever, the extracting hooks, being connected with the breech-pin, are combined with the said lever, so that, when the lever is turned in one direction, the extracting hooks are moved forward, and, when the lever is moved in the opposite direction, the extracting hooks are withdrawn. Each extracting hook is so arranged, relatively to the cartridge-chamber, that the bill of the hook, when advanced, enters within the periphery of the cartridge-chamber, so as to be sure to engage with the flange of the cartridge therein. Each hook, also, is so arranged, relatively to the cartridge-chamber, that the bill of the hook, when moved to its most forward position, is in advance of the rear of the space occupied by the cartridge, at least as far as the thickness of the flange thereof, so that the shoulder of the hook may engage with certainty with the forward side of the cartridge-flange. When the pistol is to be loaded, the movement of the lever opens the breech, by moving the breech-pin or breech-closer backward, in the longitudinal line of the barrel, or thereabouts, and withdraws the extracting hooks, while the movement of the lever in the opposite direction first impels the cartridge into the chamber of the breech. When, however, the cartridge reaches a shoulder at the front end of the chamber, its forward movement is stopped, and then the continued movement of the lever impels the extracting hooks forward past the edge of the flange of the cartridge, and, as the point of each is inclined, or sloped off, in advance of its shoulder, the bill of the hook readily passes over the edge of the flange, which, being of thin metal, yields to the pressure of the hook. When the shoulder of the hook has passed by the edge of the flange, the latter, being elastic, tends to resume its original position, and the shoulder of the hook engages with the flange, so that, if the lever be then moved to open the breech, the hooks will extract the cartridge, by reason of their engagement with its flange. The first movement of the breech-pin, in opening the

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breech of the barrel, and its last movement, in closing the breech, take place in the longitudinal line of the barrel, or thereabouts. In the fire-arm before referred to, the construction of the cartridge with a thin flexible flange permits the extracting hook to be rigidly secured to the breech-pin, but that feature is not claimed as a peculiarity of the invention. The construction of the cartridge, with the primer arranged in its interior, in the line of movement of the point of the extracting hook, after passing the flange, enables the hook to be used as the striking instrument, for transmitting the blow of the hammer to the primer, although such use of the hook does not affect its operation in extracting a cartridge, and is not essential to it; but the movement of the breech-pin or closing piece longitudinally with the barrel, or thereabouts, at the time of opening and closing the cartridge-chamber, is important, and is a distinguishing feature of the invention. The reason why two striking instruments are used, and are an improvement upon one, is stated to be that, when a single striking instrument is used, the cake of percussion powder forming the primer, being struck at about its center, frequently splits into parts, and allows the striking instrument to pass forward between the parts, without striking them against the disc-support of the primer, and hence the fire-arm frequently fails to discharge, whereas two striking instruments will hold some portion of the cake between their points, so that it can not escape, and some portion of it is certain to be struck between the points of the striking instruments and the disc-support, and the fire-arm is sure to fire. The specification states that, in the fire-arm described in the said patent to Smith & Wesson, two extracting hooks were used, but they were so arranged that, when advanced, their bills were outside of the periphery of the cartridge and of the chamber in which it was received; that, consequently, they could not engage with the cartridge-case unless its butt were first expanded by the blow of the striking instrument; and that, hence, the loaded cartridge could not be withdrawn by the hooks, and they could be used only to extract an expanded and empty cartridge-case. The specification concludes: "As the bill of my extracting hook, when moved forward, is within the periphery of the cartridge-chamber, and within the space occupied by the cartridge-flange, it must, of necessity, engage with the cartridge-flange, whether the cartridge has been fired or not, and,

consequently, can be used to withdraw a loaded cartridge." The claims of the patent, four in number, are as follows: 1. "The combination, substantially as set forth, of the breech-closing piece, moving longitudinally with the barrel, the cartridge-chamber at the butt of the barrel, and the reciprocating extracting hook, arranged in such manner that its bill enters within the periphery of the said chamber, so that it may engage with the flange of the cartridge therein, when the breech is closed by the forward movement of the closing piece, even though the cartridge be not expanded." 2. "The combination, substantially as set forth, of the breech-closing piece, moving longitudinally with the barrel, the cartridge-chamber at the butt of the barrel, and the reciprocating extracting hook, arranged in such manner that, when the barrel is closed by the forward movement of the closing piece, and when the bill of said hook is in its most forward position, the said bill is both within the periphery of said chamber and in advance of the rear of the space in which the cartridge is received, so that said bill may engage with the unexpanded front side of the flange of the cartridge, when the latter is within the said space." 3. "The combination, substantially as set forth, of the breech-closing piece, moving longitudinally with the barrel, the cartridge-chamber at the butt of the barrel, and the extracting hook described, arranged in such manner that but one side only of the flange of the cartridge is engaged with the bill of a hook inside of the cartridge-chamber, thereby enabling the cartridge remnant to be readily disengaged from the extracting hook." 4. "The combination and arrangement, substantially as set forth, of the hook, with the breech-closing piece, moving in the line of the barrel, in such manner that said hook performs the two functions of transmitting a blow to the primer, and of extracting the cartridge remnant from the breech of the fire-arm."

The answer sets up a prior description of the invention in the said patent to Smith & Wesson, granted February 14, 1854, and in a patent granted by the United States to George W. Morse, October 28, 1856; and also prior knowledge and use of the invention by various persons named. It also sets up, that the invention had been, with the knowledge and consent of Hicks, in public use and on sale more than two years prior to the application by him for a patent therefor. It also sets up, that the reissue

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of March 1, 1870, was obtained by Hicks for the fraudulent purpose of enabling him to include therein matters of which he was not the original and first inventor, and that it includes such matters, and that they, on the face of the patent, (especially in connection with the state of the art as it existed at the date of the original patent, and subsequently,) clearly appear to be different from the invention described and claimed in the original patent, and that the reissue is therefore void.

It is insisted that the defendant has infringed the first three claims of the patent, by selling fire-arms manufactured by the Winchester Repeating Arms Company, of New Haven, Connecticut, containing the inventions covered by those claims. The defendant's fire-arm can not be used with a cartridge like that described in the plaintiffs' patent, having a central hole in the metal cap at the rear, and no flange at the rear projecting beyond the outer diameter of the body of the cartridge in a direction at right angles to its longitudinal axis, but can be used only with a cartridge which has such a flange. To fire the cartridge, in the defendant's arm, two points, carried by a rod in the breech-piece, strike the rear end of the cartridge, near its outer circumference, and explode the fulminate within. In the upper surface of the breech-piece there is a groove, into which is fitted a spring, the forward end of which is formed into a hook, which projects beyond the front face of the breech-piece, so that, when the cartridge is pushed into the chamber of the barrel, the hook springs over the outer flange of the cartridge, and engages with the flange, and, when the breech-piece is retracted, the hook draws the cartridge out of its chamber.

There can be no doubt, on the evidence, that Hicks was the first person who devised a practical mechanism for certainly withdrawing a loaded cartridge from its chamber, in a breech-loading fire-arm, under all conditions, as well when its rim or flange has not been expanded by the blow of a striking instrument, as when it has been so expanded, by effecting such withdrawal through the engagement, within the periphery of such chamber, of a hook, actuated automatically, with a metallic flange forming part of the cartridge. In devising such mechanism, he made an important invention. Sometimes, it is desired to withdraw the loaded cartridge without attempting to fire it. Before the inven-

tion of Hicks, the only certain means of doing so was to insert a rammer in the muzzle of the barrel of the fire-arm, and push the cartridge out through the breech end. This was dangerous, because liable to cause the cartridge to explode by striking its fulminate end against the breech-closing piece. The mechanism described in the patent issued to Horace Smith and Daniel B. Wesson, February 14, 1854, and reissued to them October 10, 1854, would withdraw the cartridge only after its rim had been forced, by expansion caused through the blow of the striking instrument, to engage with recesses provided to receive it, and would not withdraw a loaded cartridge before any attempt had been made to fire it. Although the application by Hicks for his original patent of March 10, 1857, was not made until February 20, 1857, yet his invention dates back to a period shortly after August 14, 1855, and anterior to the date of the invention shown in the patent of October 28, 1856, granted to George W. Morse. No such combination and arrangement as that described in the patent to Hicks, and covered by his first three claims, to effect the result of withdrawing an unexpanded loaded cartridge, existed before his invention. The same combination and arrangement, operating in substantially the same way, to effect the same result, is found in the defendant's fire-arm. It can make no difference, that the flange of the defendant's cartridge radiates outwardly from the longitudinal axis of the cartridge, and that the flange of the plaintiffs' cartridge radiates inwardly toward the longitudinal axis of the cartridge. Nor can it make any difference, that the defendant has a rigid flange in the cartridge, and causes the hook to spring, to engage with the flange, while the plaintiffs have a rigid hook, and cause the flange to spring, to engage with the hook. Each has the breech-closing piece moving longitudinally with the barrel, the cartridge-chamber at the butt of the barrel, and the reciprocating extracting hook, arranged in such manner that, when the breech is closed by the forward movement of the closing-piece, the bill of the hook is within the periphery of such chamber, and, being in its most forward position, is in advance of the rear of the space in which the cartridge is received, so as to engage with the unexpanded front side of the flange of the car-

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tridge, and only one side of the flange is engaged with the bill of the hook, avoiding any difficulty in disengaging the cartridge.

It is shown, that, to reach the invention made by Hicks, it was necessary for him, taking the cartridge and nipple or firing instrument which he used, to make a properly shaped hook on the nipple, to change the location of the nipple relatively to the breech-pin and to the cartridge-chamber, and to bring the flange of the metal cap on the cartridge within reach of the hook, by reducing the size of the central hole in such cap. Although the cartridge and its flange are not made part of the combination, in any one of the first three claims, yet the combination is required to be so arranged as to effect and insure an engagement between the bill of the hook and the flange of the cartridge, by merely closing the breech by the forward movement of the closing piece. Such engagement is the purpose of the combination and arrangement. If the combination exists, yet, if it is not so arranged as to effect such engagement, there is no infringement. So, the prior existence of the combination of a breech-closing piece moving longitudinally with the barrel, a cartridge-chamber at the butt of the barrel, and a reciprocating hook, the whole arranged so that the hook would extract something from the chamber, by means of the motion of the breech-closing piece, is of no avail to impeach the patent, so long as such combination was not so arranged as to extract an unexpanded loaded cartridge, through the engagement of the hook with the flange of the cartridge by the forward movement of the closing-piece, and the sequent action of the closing-piece in its backward movement.

It is contended, that the patent shows but a single arrangement of the three elements of the combination named; that three claims on such single arrangement can not be sustained; that each claim rests on a portion of the result to be accomplished by working the arrangement; that, thus, each claim claims a function; that such functions are not patentable; that, to perform the functions, requires that the cartridge be used; and that the defendant has not used the cartridge, and so has not infringed. I do not think the patent is open to these objections. The first claim is the same it would be if it claimed causing the bill of the reciprocating extracting hook to enter within the periphery of the cartridge-chamber, by means of the combination specified, when so arranged as

to enable the bill to engage, in such chamber, with the flange of the cartridge when the breech is closed by the forward movement of the closing-piece, even though the cartridge be not expanded. The second claim is the same it would be if it claimed causing the bill, not only to enter within the periphery of the cartridge-chamber, but to be, when in its most forward position, in advance of the rear of the space in which the cartridge is received, by means of the combination specified, when so arranged as to enable the bill to engage with the unexpanded front side of the flange of the cartridge, when the latter is within the said space and the breech is closed by the forward movement of the closing-piece. The third claim is the same it would be, if it claimed so arranging the hook or hooks, in the combination specified, as to act as one side only of the flange of the cartridge in the chamber, thus enabling what is withdrawn by the hook or hooks to be readily disengaged therefrom. It can not be doubted that the claims, thus presented, would not be open to criticism. The first and second would be different from each other, in substance, and the third would be wholly distinct from either. The patentee would be entitled to make such claims, because they are embraced in what is shown in his original specification and drawings; and he really invented what each would cover. It could not be said, *a priori*, that the first claim would necessarily cover the position of the bill of the hook in advance of the rear of the space in which the cartridge is received, or the ability of such bill to engage with the unexpanded front side of the flange of the cartridge, when the latter is within the said space. Nor could it be said that the first claim would necessarily cover anything more than the entrance of the bill of the hook within the periphery of the cartridge-chamber, and its ability to engage therein with the flange of the cartridge.

✓ Claiming the arrangement of a combination, when the arrangement is such as to produce a given mechanical result of the combination, is not a claim to a function. The result is not claimed irrespective of the means producing it. The means alone are claimed, and claimed only when specially arranged to produce a given result. This is very far from claiming a function.

—The defendant may not have himself used a cartridge in the fire-arms sold by him, so that it can be said he has caused the

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hook to engage with the flange of the cartridge, and he may never have withdrawn a loaded ball and disengaged it from the hook. But, even if the cartridge were to be regarded as a part of the arrangement and combination, the defendant would, within the principle of the case of *Wallace v. Holmes*, 9 Blatchf. C. C. 65 (5 Fisher, 37), be an infringer, by selling an arm capable of being, and designed to be, used to effect the result of the patent by the means specified in its claims, and requiring only the addition of the cartridge by the purchaser. ✓

It is contended, by the defendant, that the first three claims of the plaintiffs' patent must be limited to an arrangement by which the hook shall bodily enter within the cartridge-chamber, so that its bill may enter the rear end of a cartridge, when one is in the chamber, and engage with the inner edge of an inner flange of the cartridge; that the reissue is enlarged beyond the invention actually made and presented in the original patent, so as to cover inventions subsequently made by others; that, in the defendant's arm, the instrument for extracting the cartridge never enters any portion of the cartridge, and no portion of it ever enters the cartridge-chamber proper; and that the defendant's device could not operate with a loaded cartridge of the character shown in the plaintiffs' patent, and the plaintiffs' hook could not operate with such a cartridge as is used in the defendant's arm. These views are pressed with great earnestness, but they seem to me to be without real strength. The invention of Hicks involved only slight changes in what existed before, but those slight changes brought success. When the idea of Hicks was once embodied in practice, it was easy to adapt it to any form of flange. When a cartridge with a flange on the exterior rim was used, it required only ordinary mechanical skill to take Hicks' invention and apply it to such flange, making the spring in the hook instead of in the flange. The change embodies Hicks' invention, although it may contain some patentable improvements. In respect to the cartridge described in the plaintiffs' patent, its chamber is the entire space which it, and its cap, and the flange, and all its component parts occupy in the arm, the chamber being formed by the walls inclosing such space. Into that space the bill of the plaintiffs' hook enters, because of the central hole in the cap. So, in the defendant's arm, the cartridge-chamber is the entire space occu-

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pied by the cartridge and its flange, the flange being as much a part of the cartridge as any other part, and the chamber is formed by the walls inclosing such space. Into such space the bill of the defendant's hook enters, provision being made to allow the hook room to ride over the flange.

The fact, that no arms are now made in which the hook on the nipple in the breech-pin enters within the diameter of the body of the loaded cartridge, is due to the fact that such form of cartridge as is shown in the plaintiffs' patent has been superseded in practice, because of the preference given to cartridges with a flange on the exterior rim.

There is nothing to impeach the validity of the plaintiffs' patent, and it is established that the defendant's arm infringes its first three claims. There must be a decree for the plaintiffs, for an account, in respect of such infringement, with costs. As the bill is not based on the extension, there can be no injunction in this suit.

HORACE M. RUGGLES

vs.

CHARLES EDDY ET AL. IN EQUITY.

S., a patentee, assigned to R. all his interest in "the invention as secured to him by the patent," for the whole of the United States (reserving to J. the right to use the patent at a particular place, and to sell in particular territory the products of such use), the same to be held and enjoyed by R., for his own use and that of his representatives, "to the full end of the term for which said letters patent are or may be granted," as fully and entirely as the same would have been held and enjoyed by S., had the assignment not been made. This assignment was recorded in the Patent Office. Subsequently, the patent was extended to S., and he afterward assigned to E. all his interest in the extension. E. went on to use the invention, and was sued by R. in equity, for infringement: *Held*, that the right to the extended term passed to R., the first assignee.

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The legal effect of the assignment to R. can not be varied by parole evidence not showing mutual mistake.

The title of R, if regarded as an equitable title, is sufficient to enable him to sue E. in equity, E. having taken title after the assignment to R. was recorded.

But, *semble*, that R. took the legal title.

(Before WOODRUFF, J., Northern District of New York, June, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought on letters patent for an "improvement in coal stoves," granted to Henry Stanley, January 4, 1845, and extended for seven years from January 4, 1859.

The facts are fully stated in the opinion.

, *Horace M. Ruggles*, for complainant.

Francis Rising, for defendants.

WOODRUFF, J.

The complainant sues as the assignee of an invention of an improvement in coal stoves, for which letters patent were granted to Henry Stanley, January 4, 1845, which letters patent were extended, December 24, 1858, for a further term of seven years. The defendants' answer and the proofs show that the defendants, since the said extension, have used, and are using, the invention for which such letters patent and the extension thereof were granted, by the manufacture of stoves, embracing the improvements which were the subject of the patent. On this point there is no dispute between the parties. The defendants justify their use of the said improvements by the facts, that the said extension of the letters patent was granted to the said Henry Stanley, the original patentee, and that, after such extension, all his right, title, and interest in, under, or by virtue of, the said extension of the said patent, have, through mesne assignments, come to them. On the other hand, the complainant insists that, by virtue of the assignment made by the original patentee to one Henry J. Ruggles, who assigned to the complainant the extension inured to the benefit of the complainant, and that, such assignments being duly recorded before such extension, no transfer of the extended patent could confer upon the defendants the right to use the said

invention, or make or sell stoves embracing the patented improvements. The principal question, therefore, is whether the assignment by the patentee to Henry J. Ruggles operated to vest in him the right to the invention for the term of the extension subsequently granted to the patentee.

The assignment to Henry J. Ruggles was made May 18, 1853, in consideration of \$4,750; and, after reciting the granting of the said letters patent, and certain other letters patent, it, in terms, assigns "all the right, title, and interest which I" (the patentee) "have in the said inventions, or either of them, as secured to me by said letters patent, for, to, and in the several states of the United States, except, I reserve the right for my brother, John P. E. Stanley, of Baltimore, to use any or all of the above patents in his foundry in Baltimore, but not elsewhere, and to sell the stoves which he makes from said patents, in Pennsylvania and in the states south and west of Pennsylvania, and not elsewhere; the same to be held and used by the said Henry J. Ruggles, for his own use and behoof, and for the use and behoof of his legal representatives, to the full end of the term for which said letters patent are or may be granted, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not have been made."

This assignment is of the invention, and not, in words, an assignment of the letters patent. The expression, "the said invention, as secured to me by said letters patent," is probably susceptible of two constructions: one, "the said invention described in the letters patent," the terms, "as secured by the letters patent," being employed to limit the grant to the precise invention secured by the patent; the other construction being, "the said invention, to the extent and according to the legal effect only of the letters patent," which might be deemed to limit the transfer to the term of the patent actually then granted. If there was nothing more in the assignment indicating the intention of the parties, the last-named construction would, at least, be plausible. But when, in connection with a transfer of the invention, it was added, to be held and used by the assignee, for his own use, and for the use of his representatives, "to the full end of the term for which said letters patent are or *may be* granted," the intention to grant the whole right and interest of the inventor in the invention, within

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the specified territory, becomes conspicuous—not because the *habendum* clause enlarges the grant, but because it makes it more clear what the parties intended, namely, to assign the whole invention described in the patent.

I am not able to withdraw this case from the operation of the decision of the Supreme Court of the United States in *Railroad Company v. Trimble*, 10 Wallace, 367, 378, where, in all that is material to the effect of the instrument between the parties in this respect, the language of the assignment was identical with the assignment now in question; and the decision of that court in *The Nicolson Pavement Company v. Jenkins*, at the December term, 1871, now just closed (14 Wallace, 452), is in full affirmance of the other case. In the latter, the court says: "Manifestly, something more was intended to be assigned than the interest then secured by letters patent. The words, "to the full end of the term for which the said letters patent are or may be granted," necessarily import an intention to convey both a present and a future interest, and it would be a narrow rule of construction to say that they were designed to apply to a reissue merely, when the invention itself, by the very words of the assignment, is transferred." The legal effect of the instrument now in controversy is, therefore, not an open question. Those decisions conclude this court, if there otherwise seemed doubt respecting it.

Parol evidence was offered by the defendants that there was no promise or agreement by the patentee that the assignment should convey the extension, if the patent should be extended; that the patentee did not intend to convey any interest "beyond that embraced in the life of the original patent;" that the patentee received from the assignee no consideration for the extended term; and that the patentee paid the expenses of procuring the extension of the patent. The decisions of the Supreme Court, above referred to, having settled the legal construction and effect of the assignment actually made, this evidence can not be permitted to vary or alter it. It shows no mutual mistake. The consideration actually acknowledged was \$4,750, for what was assigned. The assignee, in the absence of proof of clear mistake, must be presumed to have paid that consideration for what the assignment, as matter of law, did convey. It is probably true that nothing was said at the time on the subject of an extension. Very proba-

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bly, neither of the parties then knew that an extension ever would be granted ; and all the above testimony is, therefore, quite consistent with the fact that the patentee intended to transfer all his interest in the invention for the specified territory. Certainly, it fails to show any intention, even in the mind of the patentee, to reserve to himself the advantage of an extension in respect to such territory, if an extension should be afterward obtained.

To the suggestion that a fraud was practiced upon the government in procuring an extension, if such extension could inure to the benefit of the assignee only, several observations are pertinent. No such effect was given to the procurement of the extension, in the cases cited, as would prevent the assignee taking the benefit of it. If there was any fraud, it does not lie with the patentee or his assigns, to allege his own fraud on the government, to avoid the effect of his prior assignment. And, finally, the assignment was not of the exclusive right for all the territory of the United States, but for a part only. The court can not, upon the proofs, certainly know that the patentee had not an interest in extending the patent, in respect of the rights reserved to his brother in the assignment itself.

The objection that the complainant can not sue, in equity, for an infringement of the patent, because the defendants have, by their assignment from the patentee, obtained the legal title to the extension, has no foundation. In a court of equity, an equitable title is sufficient, as against the patentee and those claiming under him with notice of the complainant's rights, and that notice appears by the records of the complainant's title ; and the case above first cited tends to show that, in fact, the complainant has the legal title.

If there be any apparent hardship in the condition of the defendants, they have no claim that is not, I think, fully met by one or both of the cases above cited, and no alternative remains but to decree an injunction and account, as prayed in the bill of complaint.

Mowry v. Grand Street and Newtown Railroad Co.

JAMES D. MOWRY, AS TRUSTEE, ETC., ET AL.

vs.

THE GRAND STREET AND NEWTOWN RAILROAD COMPANY. IN EQUITY.

T., having made an invention, and applied for letters patent for it, on a specification filed in the Patent Office, assigned to H., in 1852, "all the right, title, and interest whatsoever, which I now have, or, by letters patent, would be entitled to have and possess, in the aforesaid invention, the said invention being described in the specification as prepared and executed by me, or to be prepared and executed by me, for the obtaining of said letters patent, the whole to be held and enjoyed" by H., "to the full extent and manner in which the same would have been, or could be, held and enjoyed by me, had this assignment never been made," and authorized the issue of "the said" patent to H., "as the assignee of my whole right and title to the same, and to the new invention aforesaid." A patent was accordingly granted to H., on the invention, in 1852. In 1854, H. assigned to S. all his interest in any extended term of the patent. In 1866 the patent was extended to T: *Held*, that, by the assignment of 1852, no right to the extended term passed to H., and, consequently, S. had no such right.

Whether the claim of the letters patent granted July 6, 1852, to Henry Tanner, as assignee of Lafayette F. Thompson and Asahel G. Bachelder, for an "improved mode of operating the brakes of railway cars,"—namely, "to so combine the brakes of the two trucks with the operative windlasses, or their equivalents, at both ends of the car, by means of the vibrating lever, A', or its equivalent, or mechanism essentially as specified, as to enable the brakeman, by operating either of the windlasses, to simultaneously apply the brakes of both trucks, or bring or force them against their respective wheels, and whether he be at the forward or rear end of the car,"—is limited to a combination of two or more brake systems, as they are ordinarily found in the swivelling car-trucks of an eight-wheeled car, with each other and with the operative windlasses, by means of a vibrating lever, or whether it covers any combination of the brakes of a car with each other, and with the windlasses, by means of a vibrating lever, so that all the brakes can be applied simultaneously from either end of the car, even

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where the car has no swivelling trucks with separate brake systems, *quare*.

The latter construction of the claim not having been maintained in any judicial decision, or acquiesced in by the public, and its novelty, on such construction, being shown to be doubtful, an application for a provisional injunction against an arrangement which was no infringement except on such construction, was refused.

(Before BENEDICT, J., Eastern District of New York, June, 1872.)

MOTION for a provisional injunction.

Suit brought upon letters patent for "improved mode of operating the brakes of railway cars," granted July 6, 1852, to Henry Tanner, assignee of Lafayette F. Thompson and Asahel G. Batchelder, and extended for seven years from July 6, 1866, to Batchelder, in his own right, and also to him and George O. Way, administrator of L. F. Thompson, deceased.

Samuel D. Cozzens, for complainants.

Tracy, Catlin & Van Cott, for defendants.

BENEDICT, J.

This is a motion for a preliminary injunction to restrain the defendants from using upon their horse-cars a certain brake, claimed to be an infringement upon what is known as the Tanner patent, which the plaintiffs are said to own. The motion was brought to a hearing before me on a former occasion, upon the plaintiffs' bill and moving papers alone, the defendants at that time interposing no denial of any of the averments in the plaintiffs' papers. It is now before me upon additional papers on the part of the plaintiffs, and is now opposed by affidavits on the part of the defense.

One question, now first presented in the case, relates to the title of the plaintiffs. This question having been fully argued by counsel representing, for that purpose, the interest of Mr. Sayles, whose title is the one opposed to that of the plaintiffs, and having been fully considered, may be now disposed of, so far as my action is concerned.

The facts respecting the title to the patent are as follows: Prior to April, 1852, Lafayette F. Thompson and Asahel G.

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Bachelder had invented "an improved mode of operating the brakes of railway cars." Specifications presented by them were already before the Patent Office, which they were about to amend, and on which they were applying for letters patent. Before any patent was issued to them, they executed an assignment to one Henry Tanner, to whom, in pursuance of the statute, and in accordance with a requirement inserted in the assignment, and upon amended specifications made by Bachelder, and dated April 8, 1852, a patent for the invention was issued on July 6, 1852. In March, 1866, Tanner assigned to Bachelder and George O. Way, administrator of Lafayette F. Thompson, deceased, all the right, title, and interest which he then had in and to any extended term of the said letters patent; and, in July, 1866, the patent was extended, and a certificate of extension, dated July 5, 1866, was issued to Bachelder and Way, from whom the plaintiff derives title. It appears, however, that Tanner, prior to his assignment of March, 1866, to Bachelder and Way, and on July 13, 1854, had assigned to Thomas Sayles all his right, title, and interest in any extended term of the patent, whence it results that, if by the first assignment of Bachelder and Thompson to Tanner, in April, 1852, the right to the extended term was conveyed to Tanner, that right passed to Sayles by the assignment of July 13, 1854, and the plaintiffs have no right thereto.

The question therefore is, whether the legal effect of the assignment of April 1, 1852, from Bachelder and Thompson to Tanner, was to convey the right to the extended term of the patent in question to Tanner. The words of that assignment are as follows: "Whereas, we, Lafayette F. Thompson, of Charlestown, and Asahel G. Bachelder, now or late of Lowell, in the State of Massachusetts, have invented an improved mode of operating the brakes of railway cars, and have applied, *or intend to apply*, for letters patent of the United States of America therefor, now, therefore, this indenture witnesseth, that, for and in consideration of one hundred dollars in hand paid, the receipt whereof is hereby acknowledged, we have assigned and set over, and do hereby assign, sell, and set over, to Henry Tanner, of Buffalo, in the State of New York, *all the right, title, and interest whatsoever*, which we now have, or, by *letters patent*, would be entitled to have and possess, *in the aforesaid invention*,

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the said invention being described in the specification as prepared and executed by us, or to be prepared and executed by us, for the obtaining of *said* letters patent, the whole to be held and enjoyed by the said Henry Tanner, and his legal representatives, to the full extent and manner in which the same would have been, or could be, held and enjoyed by us, had this assignment never been made; and we do, by these presents, authorize the Commissioner of Patents to issue the *said* letters patent to the said Henry Tanner, and his legal representatives, as the assignee of *our whole right and title to the same, and to the new invention aforesaid.*"

It is important, in determining the effect of this instrument, to notice, that, whatever else was the subject matter of the contract, it was not a share in the invention, nor a right restricted to any particular locality, and, further, that, at the time of its execution, no letters patent had been issued, but the inventors had an application for letters patent for the first term then pending in the Patent Office. At this time, therefore, the property of the inventors in this invention, capable of being the subject matter of such a contract, consisted of an inchoate right to a monopoly of their invention for a term of fourteen years, which right would be completed and secured by the letters patent for which they were then applying, and a further inchoate right to apply for and secure a monopoly for an extension of the term. Between these rights a distinction exists, arising from the fact that an extension of a patent is made dependent upon proofs of new and different facts. It is a new grant, *Wilson v. Rousseau*, 4 How. 646, 682, the right to which is capable of being transferred in the same manner as the inchoate right to the monopoly for the first term, by an agreement disclosing such an intention, *Railroad Co. v. Trimble*, 10 Wall. 367, but, being contingent and personal to the inventor, it can not be held to pass as an incident to the invention and appurtenant thereto. *Clum v. Brewer*, 2 Curtis' C. C. 506. In this posture of the law and the facts, the inventors of this improvement sold to Tanner what they described as "all the right, title, and interest whatsoever which we now have, or, by letters patent, would be entitled to have and possess," in the aforesaid invention. In this description, the words, "or by letters patent, would be entitled to have and possess," as used, are words of limitation, and confine the grant to the right which would have been

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completed and secured by the letters patent for which the inventors were then applying. Clearly, it was not the intention, by those words, to extend the conveyance to all rights which would be secured by any letters patent whenever issued, and whether extended or not; for, subsequently in the instrument, the letters patent referred to are plainly designated as those for the obtaining of which specifications had been prepared and executed, and which were about to be amended. Extended letters patent are not issued upon specifications in that manner, and no other letters patent than those for the first term could be issued upon the pending application. These words, therefore, appear to me intended to limit the conveyance. They indicate that the subject matter of the contract, which was in the minds of the parties, was the monopoly which letters patent issued upon the pending application would secure, and show that the new grant which might be secured by the inventors upon a future application for an extension, but which could not be given upon any proofs then pending, or likely to be then in contemplation, was not intended to be covered by the contract. This conclusion is entirely consistent with the broad words of the habendum clause. The habendum says, "the whole to be held," etc. The whole of what? Manifestly, the whole of the right described in the granting clause, and no more. Moreover, I find, in this instrument, no words which import an intention to transfer both a present and a future interest; and words which imply that two inchoate rights, different in character, were intended to be assigned, are wanting. One such right is clearly described, and there is no allusion to any other.

Furthermore, it is highly improbable that the right to the extension would have been intended to be conveyed, for the reason, that an assignment of the right to the extension would in effect destroy the right, as extensions of patents are issued to inventors only, and are not granted to assignees. It can not be supposed, that any part of the consideration expressed in this instrument was paid by the assignees for what would be valueless in their hands; and it is equally unlikely that the inventors would part with such a right without consideration. Such an intention, if entertained, it may be believed, would have been expressed in clear and distinct language.

Nor do I see that a different conclusion can be arrived at, if

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the instrument be a conveyance of the whole invention, without words of limitation, in view of the repeated decisions, that a conveyance of the invention merely, does not carry the right to the extension. These decisions the late decision of the Supreme Court in the case of *The Nicolson Pavement Co. v. Jenkins*, 14 Wall. 452, which has been here relied on as declaring a different law, appears to me to confirm. That decision assumes, that an assignment of the invention, without words importing an intention to convey both a present and a future interest, will not pass the right to an extension. Such words being absent from the instrument under consideration, the intention must be considered as absent. It was easy to have inserted such words, but this was not done; and, in view of the right of the inventors personally, in certain contingencies, to apply for and secure an extension, their absence leads to the conclusion, that the parties did not contract with reference to it.

The question raised as to the title of the plaintiffs to letters patent having been thus found in favor of the plaintiffs, I proceed to consider whether the validity of the patent has been so well established by judicial determination, or so generally acquiesced in, as to entitle them to an injunction before a hearing of the cause; and here is met an issue which has been raised in respect to the invention intended to be secured by the letters patent in question. The claim in the patent is as follows: "What is claimed by us is, to so combine the brakes of the two trucks with the operative windlasses, or their equivalents, at both ends of the car, by means of the vibrating lever, A', or its equivalent, or mechanism essentially as specified, as to enable the brakeman, by operating either of the windlasses, to simultaneously apply the brakes of both trucks, or bring or force them against their respective wheels, and whether he be at the forward or rear end of the car." If this claim limits the invention to a combination of two or more brake systems, as they are ordinarily found in the car trucks of an eight-wheeled car, with each other and with the operative windlasses, by means of a vibrating lever, it is manifest that the defendants do not use the plaintiffs' combination, for they do not use cars running upon trucks whose systems are operated in combination with a vibrating lever and the windlasses. They use the ordinary four-wheeled horse-cars, in which there are no trucks

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with separate brake systems, and, consequently, no free swivelling action by means of trucks or their equivalents.

The plaintiffs contend that the patent is not thus limited, but that it covers any combination of the brakes of a car with each other and with the windlasses, by means of a vibrating lever, so that all the brakes can be applied simultaneously from either end of the car, and that the ordinary brake of street cars, such as is used by the defendants, is therefore within the scope of the patent, and an infringement. To this position the defendants answer that, so understood, the patent is void for want of novelty, and has never been sustained by any judicial determination, or acquiesced in by the public. I do not find it necessary, upon this motion, to determine whether or not the construction of the patent contended for by the plaintiffs can be maintained. It is sufficient for this motion to say, that such a construction of it has not as yet been maintained in any of the suits brought upon this patent, to which the plaintiffs refer. All these suits related to eight-wheeled railroad cars, having two truck systems combined and attached to the windlasses through a vibrating lever. No suit hitherto decided has involved the question which is here presented. The evidence given in those suits related to eight-wheeled truck cars, and the decisions rendered therein can not be claimed to be judicial determinations in favor of the plaintiffs' patent as here sought to be construed. They appear to be entirely consistent with a construction of the patent in accordance with the views of the defendants, and in accordance with a conclusion that the defendants do not infringe the patent. The issue in this case, as to the validity of the patent, is therefore new; and not only is the novelty of the invention, as now claimed, denied, but a fair doubt in respect to its novelty is raised by affidavits introduced to show a prior use, in the construction of a car, of a combination claimed to be substantially similar to the combination of the plaintiffs, as they now seek to have it construed. It is also made clear that, while the patent, as understood by the defendants, and as limited to truck cars, has been acquiesced in by the public, there has been no public acquiescence in the claim now put forth, but the validity of the patent, so construed, has been constantly denied. I must, therefore, in accordance with well-settled rules, and without intimating an opinion as to the proper construction of the

patent, refuse an injunction until after the final hearing, upon the ground that there has been no judicial inquiry into the novelty of the invention now claimed by the plaintiffs, and no public recognition of the validity of the patent, as securing such an invention, but, on the contrary, its validity is in doubt.

JAMES G. TARR AND AUGUSTUS H. WONSON

vs.

H. P. WEBB. IN EQUITY.

The claim of the reissued letters patent, No. 4,598, division A, for an "improvement in paint for ships' bottoms," granted October 17, 1871, to James G. Tarr and Augustus H. Wonson, the original patent having been granted to them November 3, 1863, and reissued August 6, 1867, and again reissued in two divisions, October 17, 1871, namely: "A paint, consisting of oxide of copper, with a suitable vehicle or medium, substantially as described," read in the light of the specification attached, seeks to secure any mixture capable of being applied as a paint, in which oxide of copper is an ingredient, and, so understood, is invalid.

The poisonous effect of oxide of copper was known, and the protection of surfaces by applying compounds to them was known.

A monopoly of the use of a well-known substance, in a particular but well-known form, can not be secured.

The subject matter of the patent, even if patentable, was not new.

In the reissue, under section 53 of the act of July 8, 1870 (16 U. S. Stat. at Large 205), of a chemical patent, it is necessary to its validity that the subject matter of it should be found described in the original patent.

(Before BENEDICT, J., Eastern District of New York, July, 1872.)

MOTION for provisional injunction.

Suit brought upon letters patent for "improvement in paint for ships' bottoms, granted to James G. Tarr and Augustus H. Won-

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son, November 3, 1863, reissued August 6, 1867, and again, in two divisions, October 17, 1871.

This was a motion for provisional injunction, to restrain the infringement of reissued letters patent No. 4,598, division A, granted October 17, 1871, to James G. Tarr and Augustus H. Wonson, for an "improvement in paint for ships' bottoms," the original patent having been granted to them November 3, 1863, and reissued August 6, 1867, and again reissued, in two divisions, October 17, 1871. The specification said: "The object of our invention is to prevent the fouling of the bottoms of ships by the adhesion of barnacles, sea-weeds, and other substances: and this we effect by means of our improved paint or composition, which is applied to the hull of a vessel with a brush, in the ordinary manner." It then describes the mode of making the paint, the ingredients, and their quantities. The ingredients were Stockholm tar, benzine or naphtha, and pulverized, dry oxide of copper. It said: "We prefer to employ the oxide of copper made from the pyritous, friable ores, because, besides being easily reduced to fine powder, these contain mineral and earthy substances, such as various other metallic oxides, sulphur, etc., which serve to divide the particles of oxide of copper, interspersing between them substances which dissolve more slowly than they do, or which do not dissolve at all; it being desirable, for the sake of economy, that the solution should be less rapid than would take place with a pure oxide of copper, and yet sufficient to give the necessary protection to the bottom. * * * All that is desired is, that there should be a proper base, such as these earthy or mineral matters furnish, to retard the solution of oxide of copper, and give durability to the paint. Such a base, however, although desirable, in our judgment, and as such, claimed as an element in the composition of paint, which we have patented in another re-issue, taken at the same time with this one, is not indispensable; and, therefore, in this present specification, we do not intend to limit ourselves to its use, for a good paint may be made by the use of oxide of copper alone, with the vehicle herein described, the oxide of copper, which yields a poisonous solution in water, furnishing the necessary protection against animal and vegetable growth. * * * The proportions of tar and benzine above described are specified simply as, in our judgment, the

most suitable, and they may be greatly varied, according to the kind and quality of the tar employed, as they are designed merely for a vehicle or medium. In place of the naphtha or benzine, any known diluent may be employed. The result of mixing should be the production of a vehicle of about the consistency of linseed oil." The claim was this: "A paint consisting of oxide of copper, with a suitable vehicle or medium, substantially as described."

Miles B. Andrus, for complainants.

Whitney & Betts, for defendant.

BENEDICT, J.

The claim of the patent, read in the light of the specification attached, seeks to secure to the patentees any mixture capable of being applied as a paint, in which oxide of copper is an ingredient. The patent is not for a process, but for a compound, which the patentees claim as their own discovery. In this compound, two elements, and no others, are described as essential. There must be oxide of copper in the compound, and there must be a vehicle which will permit it to be applied to surfaces, after the manner of applying paints. It is not pretended that any new property of oxide of copper is developed or brought into action by this manner of using it, nor does the compound itself produce any effect not before known. All the benefit derived from the use of the compound arises from the poisonous effect of oxide of copper—an effect long well known. So understood, the patent is invalid. It discloses no discovery to be rewarded. Oxide of copper and its poisonous effects have long been known. Compounds capable of being applied to surfaces, in order to protect the same, are in universal use; and there was nothing new in the idea that oxide of copper could in this way be applied to surfaces.

The efforts of the patentees have been to secure the sole right to use oxide of copper in any form which renders it capable of being applied to surfaces after the manner of applying paint. A monopoly of the use of a well-known substance, in a particular but well-known form, can not be thus secured. Strychnite will

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poison dogs, and some one may yet discover that it can also be used to poison the worms of the sea ; but that will not entitle the discoverer to any exclusive property in all mixtures which contain strychnine, and are capable of being spread on surfaces.

Furthermore, it appears that, in 1849, prior to the plaintiffs' patent, Dr. Ure gave, in his dictionary, a description of a metallic pigment, to be made with pure oxide of copper, which description would enable any one skilled in the art to make a compound similar in all respects to and having the same qualities as the compound described in this patent. This being so, the subject matter of this reissue, if it be patentable, can not be secured to the plaintiffs, because it is not new.

A further objection taken to this reissue is, that the subject matter of it is not to be found in the original patent. To this, one answer made is, that, under the patent act of 1870, it is not necessary, in the case of a chemical invention, that the subject matter of the reissue should be found described in the original patent ; that it is sufficient if proof be made that the subject matter of the reissue was, in fact, part of the original invention ; and that the grant of the reissue is decisive that proof was furnished. My opinion upon other branches of the case having been expressed, I deem it unnecessary to notice this objection to the patent in question, further than to say that I am of the opinion that no such effect can be given to the act of 1870 as the plaintiffs claim ; but that, in the case of a chemical patent reissued, it is necessary to its validity that the subject matter be found described in the original patent.

The motion for an injunction is denied.

THE UNION PAPER COLLAR COMPANY

vs.

ISAAC VAN DEUSEN ET AL. IN EQUITY.

The reissued letters patent No. 1828, for an "improvement in shirt-collars," granted to William E. Lockwood, as assignee, November 29, 1864, the original patent, No. 11,376, having been granted to Walter Hunt, as inventor, July 25, 1854, the claim thereof being, "As a new manufacture, a shirt-collar composed of paper and muslin, or its equivalent, and polished or burnished, substantially as and for the purpose described," are not invalid, as being for an invention different from that described in the original patent.

Under the language of the specification of the original patent, such claim would have been a proper claim in such patent. It is, therefore, a proper and valid claim in the reissue.

The reissued letters patent No. 1980, for "improvement in collars," granted to William E. Lockwood, as inventor, June 6, 1865, the claim thereof being, "as a new article of manufacture, an embossed collar or cuff, made of a fabric composed of paper and muslin, or an equivalent fabric," and reissued letters patent No. 1981, for "improvements in collars," granted to said Lockwood, as inventor, June 6, 1865, the claim thereof being, "As a new article of manufacture, an ornamental collar or cuff, made of a fabric composed of paper and muslin, or of an equivalent fabric, ornamented by printing or otherwise marking on the surface plain or colored devices," the original patent, No. 23,771, having been granted to said Lockwood, April 26, 1859, are both of them invalid.

No 1980 does not claim any appliance or machinery for embossing, or any process of embossing, but only the result, in the embossed article, as a new article of manufacture, and is merely for embossing on a surface which imitates starched linen; the starched linen collar, with its surface embossed, having existed before; the invention of the imitative surface, or of a means of producing it, not being claimed; and the fabric of paper and muslin being old.

There was no patentable novelty in the idea of embossing the imitative surface.

No. 1981 does not claim any machinery or process for doing the printing,

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but only the result, in the printed article, as a new article of manufacture, and is merely for printing plain or colored devices on a surface which imitates starched linen; printing having been done before on a smooth, white, enameled surface; the invention of an imitative surface, or of the means of producing it, not being claimed; and the fabric to be printed upon being old.

There was no patentable novelty in the idea of printing on the imitative surface.

The first claim of the reissued letters patent No. 1646, for an "improvement in shirt-collars," granted to Solomon S. Gray, as inventor, March 29, 1864, the original patent, No. 38,961, having been granted to him June 23, 1863, namely, "The turning over of a paper, or of a paper and cloth, collar, by a defined line, whether pressed into the material by a die or pointed instrument, or by bending it over the edge of a pattern or block, of the proper curve or line, substantially as described," claims a defined line, whether straight or curved, made by the means indicated, and is void, for want of novelty.

The second claim of the said Gray reissue, namely, "Turning the part B, of a paper, or a paper and cloth, collar, over, onto or toward the part A, in a curved or angular line, instead of a straight line, substantially as and for the purpose described," embraces the third claim, namely, "So turning over the part B, onto or toward the part A, in the manner above described, as that a space shall be left between the two parts, for the purpose and substantially in the manner herein described," and is void for want of novelty, as is also the third claim.

The reissued letters patent, No. 2309, for an "improvement in paper shirt-collars," granted to James A. Woodbury, as assignee, July 10, 1866, the original patent, No. 38,664, having been granted to Andrew A. Evans, as inventor, May 26, 1863, the claim thereof being, "a collar made of long fiber paper, substantially such as is above described," are void.

The invention claimed is not the process of making a paper possessing the qualities indicated, but the making of collars out of such a paper.

Whatever invention there was to be made in the premises was an invention of the paper possessing the described properties; and the inventor of the paper is he who invents the process of producing the paper.

Evans did not invent such process, and was not entitled to a patent for the paper, or for the collar to be made from it.

Paper collars being old, the application of such a paper to paper collars was not the subject of a patent.

The first claim of letters patent No. 56,737, for an "improvement in paper cuffs or wristbands," granted to James A. Woodbury, as assignee of Andrew A. Evans, as inventor, July 31, 1866, namely, "As a new ar-

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title of manufacture, a wristband or cuff, made of long fiber paper, substantially such as is above described," is void, for the same reasons for which the claim of the said reissue No. 2309 is void.

The second claim of the said patent, No. 56,737, namely, "Making said wristband or cuff reversible, substantially as and for the purpose described," was new and patentable.

(Before BLATCHFORD, J., Southern District of New York, August, 1872.)

FINAL hearing upon pleadings and proofs.

Suit brought upon the following letters patent, all assigned to complainant:

1. Letters patent for "improvement in shirt-collars," granted to Walter Hunt, July 25, 1854; assigned to William E. Lockwood, and reissued to him in four divisions (A, B, C, and D), which were dated as follows: Division B, November 29, 1864, No. 1828; Division C, February 7, 1865, No. 1867; Divisions A and D, April 4, 1865, Nos. 1926 and 1927. No. 1927 was subsequently surrendered, and reissued July 10, 1866, in two divisions, A and B, Nos. 2306 and 2307.

2. Letters patent for "improvements in collars," granted to William E. Lockwood, April 26, 1859, and reissued June 6, 1855, in two divisions, Nos. 1980 and 1981.

3. Letters patent for an "improvement in paper shirt-collars," granted to Andrew A. Evans, May 26, 1863, and reissued July 10, 1866, to James A. Woodbury, assignee, No. 2309.

4. Letters patent for "improvement in shirt-collars," granted to Solomon S. Gray, June 23, 1863, and reissued March 29, 1864, No. 1646.

5. Letters patent for an "improvement in paper cuffs or wristbands," granted to James A. Woodbury, as assignee of Andrew A. Evans, July 31, 1866, No. 56,737.

The bill alleged the infringement of reissues Nos. 1828, 1867, 1926, 2306, 1980, 1981, 2309, 1646, and patent No. 56,737; but, upon the hearing, all claim was abandoned as to reissues 1867, 1926, and 2306.

C. A. Seward and William Whiting, for complainant.

Edmund Wetmore and Joseph J. Coombs, for defendants.

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BLATCHFORD, J.

The bill in this case is brought by the Union Paper Collar Company, a corporation, against Isaac Van Deusen and others, composing the copartnership of Van Deusen, Boehmer & Co. It alleges the infringement, by the defendants, of the following letters patent owned by the plaintiffs: Reissued patent No. 1646, granted to Solomon S. Gray, as inventor, March 29, 1864, for an "improvement in shirt-collars," the original patent, No. 38,961, having been granted to him June 23, 1863; reissued patent No. 1828, granted to William E. Lockwood, as assignee, November 29, 1864, for "an improvement in shirt-collars," the original patent, No. 11,376, having been granted to Walter Hunt, as inventor, July 25, 1854; reissued patent No. 1867, granted to said Lockwood, as assignee, February 7, 1865, for an "improvement in shirt-collars," the original patent being the one of July 25, 1854, above mentioned; reissued patent No. 1926, granted to said Lockwood, as assignee, April 4, 1865, for an "improvement in shirt-collars," the original patent being the one of July 25, 1854, above mentioned; reissued patent No. 2306, granted to the plaintiffs, as assignees, July 10, 1866, for an "improvement in shirt-collars," the original patent being the one of July 25, 1854, above mentioned, and a reissue thereof, No. 1927, having been granted to said Lockwood, April 4, 1865; reissued patent No. 2309, granted to James A. Woodbury, as assignee, July 10, 1866, for an "improvement in paper shirt-collars," the original patent, No. 38,664, having been granted to Andrew A. Evans, as inventor, May 26, 1863; patent No. 56,737, granted to said Woodbury, as assignee of said Evans, as inventor, July 31, 1866, for an "improvement in paper cuffs or wristbands;" and reissued patent No. 1980 and reissued patent No. 1981, granted to said Lockwood, as inventor, June 6, 1865, each for "improvements in collars," the original patent, No. 23,771, having been granted to him April 26, 1859. The defendants admit, by a written stipulation, that they have infringed each and all of the said patents set forth in the said bill, "by making, using, and selling to others to be used, the things therein respectively described and claimed as new." The contest is as to the validity of the patents.

At the hearing, all claim on the part of the plaintiffs in

respect of reissues Nos. 1867, 1926, and 2306, of the Hunt patent, was abandoned.

In regard to reissue No. 1828, of the Hunt patent, it is contended, by the defendants, that that reissue is for an invention different from that described, or intended to be described, in the original patent. The claim of the reissue is this: "As a new manufacture, a shirt-collar composed of paper and muslin, or its equivalent, and polished or burnished substantially as and for the purpose described." The claim of the original patent was: "The above-described shirt-collar, composed of the fabric set forth, and polished and varnished in the manner and for the purpose specified." The original specification describes the shirt-collar as made of muslin, coated on both sides with paper made to adhere to it by sizing, the fabric being then polished by a burnisher, or otherwise, the collar being then cut out, and being afterward varnished with a transparent, colorless, water-proof varnish. The specification states the object of the varnish to be, to protect the collar from the effects of moisture, and to preserve it for a much longer time from being soiled. It says, that the invention consists "in making the collars of a fabric composed of both paper and cloth, and in subsequently polishing the same by enameling or burnishing, or in any suitable or efficient manner;" and that it further consists "in covering the collars made of the same material with a thin pellicle of transparent, colorless varnish, whereby they are rendered proof against injury from either rain or perspiration, and, when soiled, may be wiped off with a damp cloth or sponge, and restored to nearly their original whiteness." The specification of the reissue does not mention the varnishing of the collars; but it describes the mode of making them, up to and including the polishing and burnishing, in substantially the same language used in the specification of the original patent. The collar is a complete collar when made and polished or burnished. The varnishing only adds to its further useful qualities. Under the language of the specification of the original patent, the claim now found in the reissue would have been a proper claim in the original patent. It is, therefore, a proper and valid claim in the reissue; and nothing is adduced which destroys the validity of such reissue.

The claim of reissue No. 1980, of the Lockwood patent, is as follows: "As a new article of manufacture, an embossed collar

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or cuff, made of a fabric composed of paper and muslin, or an equivalent fabric." The specification defines the fabric as one "having a smooth, white, polished, or enameled surface, to represent that of starched linen." It defines the embossing to be a representation of embroidery, or of ornamentation, whereby portions of the surface are depressed and portions are in relief. It describes a mode of effecting the embossing, by taking an electrotype from a linen collar or cuff, and using it as a die, and pressing between it and a counter-die a collar and cuff made of the fabric mentioned, whereby all projections, depressions, stitches, and marks on the original linen collar or cuff are reproduced, and the plain surface looks like starched linen; but it states that the inventor does not confine himself to any particular appliances or machinery for embossing the fabric.

The claim of reissue No. 1981, of the Lockwood patent, is this: "As a new article of manufacture, an ornamental collar or cuff, made of a fabric composed of paper and muslin, or of an equivalent fabric, ornamented by printing, or otherwise marking, on the surface plain or colored devices." The specification defines the fabric as one "having a smooth and polished or enameled surface, to represent that of starched linen. It states that the inventor prints, on the exposed surface of the article cut from the fabric, "plain or colored devices, so as to impart to it an ornamental appearance, the printed designs being such, as regards color and pattern, as the manufacturer may consider best suited to the taste of the public."

It is impossible to uphold either of these reissues as valid patents. No. 1980 is merely for embossing on a surface which imitates starched linen. The appliance or machinery for embossing is not claimed. The process of embossing is not claimed. The result, in the embossed article, is claimed, as a new article of manufacture. But, as like embossing had been done on starched linen, the result of producing such embossing on a smooth, white, polished or enameled surface representing that of starched linen, can not be patented as an invention, when nothing is claimed as new in the appliance, machinery, or process for producing the embossing. A starched linen collar, with its surface embossed, existed before. There was nothing of patentable novelty in the idea that, the imitative surface being provided, it would be well

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to emboss it. The patent does not claim the invention of the imitative surface, or of any means of producing it. The fabric of paper and muslin was old.

The same observations apply to No. 1981. It is merely for printing plain or colored devices on a surface which imitates starched linen. No novelty in any machinery or process for doing the printing is claimed. Nothing is described in regard to any part of the apparatus or instruments for printing. The direction is simply to "print." The result, in the printed article, is claimed, as a new article of manufacture. Printing had been done before on a smooth, white, enameled surface; and, nothing being claimed as new in the appliance, machinery, or process for producing the printing, and the surface imitating starched linen being provided, there was nothing of patentable novelty in the idea of printing upon such surface. The invention of the imitative surface is not claimed, nor is any means of producing such surface claimed; and the fabric to be printed upon was old.

If experiments were necessary before an embossed or a printed collar, of the fabric and surface indicated, could be produced, resulting in overcoming difficulties which were met with, the invention really consisted in the means or process of producing the embossed or printed collar, but the specifications and the collars produced alike fail to indicate any novelty in any such means or process, or any difficulties which can be overcome by following specific methods of operation.

Calling the thing produced a new article of manufacture, confers upon it no quality of patentable novelty, when there is no such novelty in the process or instrument for producing the embossed or printed collar, and when the substance of the whole invention claimed is merely embossing or printing on a surface imitating starched linen.

The claims of reissue No. 1646, of the Gray patent, are three in number: 1. "The turning over of a paper, or of a paper and cloth, collar, by a defined line, whether pressed into the material by a die or pointed instrument, or by bending it over the edge of a pattern or block, of the proper curve or line, substantially as described." 2. "Turning the part B, of a paper, or a paper and cloth, collar, over, onto, or toward the part A, in a curved or angular line, instead of a straight line, substantially as and

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for the purpose described." 3. "So turning over the part B, onto or toward the part A, in the manner above described, as that a space shall be left between the two parts, for the purpose, and substantially in the manner, herein described."

In reference to the invention embodied in the first claim, the specification says: "In the making of turn-over shirt-collars of paper, or of cloth and paper combined, it is exceedingly difficult to fold the material so that, when turned over on the arc of a circle, it will present a regular line. This can not be done by the eye, but must be done by a gauged line made in the material, or by a former of suitable shape, laid on the material, as a guide to turn it over by." It also says, that the best mode of securing the turning over in the arc of a circle, is to make in the collar an impression of the curve or line on which it is to be turned over, either by means of a die pressed upon it, or by drawing a pointed instrument over it, beside or along a pattern; that, when this is done, the collar can be readily turned over on or following the indented line; that the collar may also be turned over the edge of a pattern or block of the proper curve or line; and that the effect of making the folding line the arc of a circle, instead of a straight line, is to prevent the tension of the outer circle of the collar, after the turning over is effected, from wrinkling or puckering the inner circle, and to cause the outer portion to stand off from the inner portion, so that a necktie may be inserted in the space, without causing either portion to be wrinkled or puckered by the pressure of the necktie.

It will be observed that the claims limit the turning over to a paper, or a paper and cloth, collar. Nothing is said about a linen collar. It is not stated that any difficulty exists in turning over a collar of paper, or a collar of cloth and paper, on the arc of a circle, so as to present a regular line, which does not exist in turning over a linen collar; nor is it stated that the inner part of a turn-over linen collar, which is turned over in a straight line, will not wrinkle or pucker, when brought into a circular form, and the more if a necktie be inserted between the inner part and the outer part.

The third claim of the patent is entirely embraced within the second claim. One of the purposes described as to be attained

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by turning the one part over, onto, or toward the other, in a curved or angular instead of a straight line, is, that a space shall be left between the two parts, and the leaving of the space is described as being merely the result of turning the collar over on other than a straight line. Attention may, therefore, be confined entirely to the first and second claims; for, if the second is void, the third must fall with it.

The first claim covers a defined line, whether straight or curved, made by the means indicated—either pressing a die or pointed instrument into the material, to make the line, or making the line by bending the material over the edge of a pattern or block representing the desired line. The second claim covers the turning over of the collar in a curved or angular line, whether by a defined line or not, and by whatever means.

It is shown that, for many years before Gray's invention, paper envelopes, and the tops and bottoms of paper and card-board boxes, were produced by shapers of steel, pressed on the material, so as to produce defined lines, whereby the material could be folded. It is also shown that, in 1856 and 1857, the collars of Walter Hunt, made of paper and cloth, were folded over a piece of metal, in a straight line—the same process spoken of in the first claim of Gray's reissue, as bending the material "over the edge of a pattern or block, of the proper curve or line." It is also shown that, prior to Gray's invention, linen collars were ironed on blocks, with a groove in the block, so that, as the iron passed into the groove, the collar received a defined line, by which it was turned down. This evidence disposes of the first claim of the Gray reissue.

It is also proved that, before Gray's invention, paper collars were folded by laying upon the unfinished side a piece of tin, having at one edge the required curve, and pressing upward, over such curve, a part of the collar, so as to mark the line of the curve, and crease the paper, preparatory to folding it over; and that linen collars were turned over on a curved line before Gray's invention, with the prevention of wrinkling and the affording of space for the cravat. The second claim of Gray's reissue is therefore invalid.

The serious contest, in this suit, is in regard to reissue No. 2309 of the Evans patent. The specification of the reissue states

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that the object of Evans was to make a paper collar in which there was no backing of woven fabric. It proceeds: "Said Evans discovered, as the result of many experiments, that, in order to produce a really good collar, the paper must possess the following qualities, viz: strength to withstand the usual wear and tear, particularly where button-holes are used, without excessive thickness, such as to destroy the resemblance to a starched linen collar, and tenacity or toughness, with pliability sufficient to allow the collar to be folded upon itself without cracking at the fold, and the pureness of color and necessary polish to make it resemble starched linen. He (said Evans) made his collars out of a paper which he produced, or caused to be produced, in which he combined these qualities, which paper was made of a long fiber, substantially, in this respect, like bank-note paper, but of about the same thickness as that of an ordinary collar, and of a pure shade or color, such as to resemble starched linen. By means of the length of fiber in the material, he was enabled to obtain, from the degree of thickness above specified, a sufficient degree of strength, tenacity, and pliability to make a collar practically useful for wear, without interfering with the resemblance in appearance to a linen collar. A sample of the paper which he thus found suitable and used, is shown, filed with the original application of the said Evans for his patent above referred to." The specification then describes what quality of stock should be used, and in what manner the stock should be pulped and beaten, and how the sheets should be run off; and how the water should be expelled, and what tint of color should be given, and adds: "The invention of said Evans is not confined to the use of any specific proportion of hard stock, nor to any specific time or mode of long beating of the pulp, nor any specific method of running off or uniting the sheets of pulp, or of exhausting the moisture, or of giving the required tint, but it is believed that the quality of stock to be used, the process by which the length of fiber and the required shade of color are produced, will be readily understood by paper-manufacturers, having regard to the above description and the purposes for which the paper is designed." From the paper, when prepared, collars are directed to be cut. The claim is: "A collar made of long fiber paper, substantially such as is above described."

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The specification points out, as the invention of Evans, not the process of making a paper possessing the qualities indicated, but the making of collars out of such a paper—the discovery that, for a good paper collar, the paper must possess these qualities. The specification states that he “produced, or caused to be produced,” such a paper, and, also, that he “found” such a paper “suitable” and “used” it. In fact, the invention indicated and claimed is, that when a paper of the qualities set forth is found, a collar is to be made of it.

But, whatever invention there was to be made in the premises, was an invention of the paper possessing the described properties. No person can be considered an inventor of the paper who did not invent the process for producing the paper. It is entirely clear, from the evidence, that Evans had nothing to do with the process for producing the paper. Mr. Crane and his operatives worked out that process, without any suggestions from Evans as to any parts of the process. All that Evans did was to say that he must have a paper of a certain weight, thickness, color, strength, and finish. Such a paper was produced by Mr. Crane, after many experiments as to the character of the materials used and the mode of treating them. Evans' relation to any invention in the premises is no other than what it would have been if he had found, ready to his hand, the desired paper, and had conceived the idea of making a collar from it. The making of the collar would not have been patentable, collars having before been made of other qualities of paper and other materials. Charles Goodyear discovered the process for producing vulcanized India-rubber, and was the first person to produce such article. He was entitled to a patent for the process and to a patent for the product. He was entitled to a patent for the product because he invented the process and for no other reason. If he had not invented the process he would not have been entitled to a patent for the product. If he had said to another person, “I wish to have produced from India-rubber an article possessing such and such properties, and when I procure it, I can use it for such and such purposes,” and such other person had, by experiment, produced vulcanized India-rubber, Charles Goodyear could not have obtained a valid patent for such product. Nor could he have obtained a valid patent for anything, as a new manufacture, to be made from such product,

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which had before been made, in like form and shape, from other materials. The patent to Charles Goodyear, for his product, covered the making of all such things. In the present case, the collar described in the specification and shown in the drawings of the reissue of Evans' patent is, in form, structure, and arrangement, apart from the paper of which it is to be made, identical with collars previously made of linen, paper, and other fabrics. Evans not having invented the paper, was not entitled to a patent for it, or for the collar to be made from it.

The broad proposition is contended for by the plaintiffs, that Evans invented the paper, as a new manufacture, because he was the first to conceive the idea of having a paper combining all the qualities prescribed in the specification. It is urged that, as he was not a paper-maker, he had a right to use the trained skill of Mr. Crane and his operatives to carry out the idea; and they were merely the instruments of Evans in working out the invention of Evans; that, although Evans does not claim to have invented the process or the machinery for making the paper, yet he was the inventor of the paper, and could have obtained a patent for it as an article of manufacture; and that, therefore, a patent for his invention of a collar made from such paper can be sustained. The principle sought to be applied, in the view thus urged, is a familiar one in the patent law, and properly applicable in some cases. But it has no proper application to the patent in question. Evans had nothing to do with imparting to the paper the qualities attributed to it by the specification. He merely announced to the paper-maker that he desired a paper having those qualities to be made. If the paper-maker, setting forth the process and machinery by which the paper was made, had, the paper, as combining in itself properties never before combined in a paper, being a new article of manufacture, claimed a patent for the paper, as having invented the process by which it was made, could it be said that he would not have been entitled to such patent? If not, can Evans be entitled to a patent for the paper, or to the present patent, which is really nothing else but a patent for the paper? At the very utmost Evans could properly assert nothing more than that he and the paper-maker were joint inventors of the paper.

For these reasons I am constrained to hold that the reissue No. 2309 is void.

The patent of July 31, 1866, No. 56,737, for an alleged invention of said Evans, has two claims: 1. "As a new article of manufacture, a wristband or cuff made of long fiber paper, substantially such as is above described." 2. "Making said wristband or cuff reversible, substantially as and for the purpose described."

The specification of this patent, so far as the first claim is concerned, is, in its descriptive part, identical with the specification of the reissue No. 2309, substituting "wristband or cuff" for "collar." The first claim is for a wristband or cuff, as a new article of manufacture, made of the paper described in the reissue No. 2309. Wristbands and cuffs of paper, linen, and other fabrics, being old, and there being nothing new or peculiar in the form or structure of the wristband or cuff embraced in the first claim, except as to the paper of which it is to be made, and Evans not having been the inventor of such paper, the first claim is invalid, for the same reasons for which the claim of the reissue No. 2309 is void.

As to the second claim of No. 56,737, so far as the evidence discloses, it was new and patentable. The wristband or cuff shown in the drawings of the patent as being double or reversible, is so in a sense different from anything shown to have existed before. It has six button-holes, three on each end, the middle and outer ones alone being necessarily in use at any one time, and the inner ones being capable of being left to be first used when the wristband or cuff is reversed. There is something new, useful, and patentable in such a construction.

There must be a decree for the plaintiffs for an injunction, and an account of profits on reissue No. 1828 and on the second claim of patent No. 56,737. The question of costs is reserved until the entering of a final decree.

Marsh v. Sayles.

HIRAM H. MARSH

vs.

THOMAS SAYLES ET AL. AND THE COMMISSIONER OF
PATENTS. IN EQUITY.

Where an inventor, whose application was rejected and withdrawn in 1851, delayed to renew it until 1869, and meanwhile—viz., 1859—a patent on substantially the same improvement was granted to another, the existence of which patent became known to the first inventor in 1865: *Held*, that the legal inference from these facts is that he acquiesced in the action of the Patent Office, and abandoned whatever claim he had to the public.

It is not material whether the rejection of his claim was right or wrong. Even if wrong, he was obliged, if he insisted on his claim, to take some action on the subject within a reasonable time, either by an appeal from the commissioner or by a bill in equity in the proper court.

The simple allegation in a bill in equity, under section 52 of the patent act, that the inventor did not abandon his claim to the public, is not enough to rebut the presumption to the contrary arising from the above state of facts.

The first inventor ought to have a patent for his invention, if he seeks to obtain it within a reasonable time and by the methods the law points out.

The proviso of section 35 of the act of 1870, which provides for the renewal of rejected and withdrawn applications, is subject to the implied condition that the applicant has not lost his right to make the application by abandonment or surrender of the same.

This proviso was not intended to restore what had been voluntarily given to the public, or what had become the property of the public by the neglect or refusal for a series of years to prosecute what was originally a valid claim.

(Before DRUMMOND and BLODGETT, JJ., Northern District of Illinois, September, 1872.)

DEMURRER to bill in equity.

Suit brought by complainant, Hiram H. Marsh, to obtain a

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patent upon an "improvement in cultivators," by proceedings under section 52 of the patent act of 1870, which reads as follows:

"That whenever a patent on application is refused, for any reason whatever, either by the commissioner or by the Supreme Court of the District of Columbia, upon appeal from the commissioner, the applicant may have remedy by bill in equity; and the court having cognizance thereof, on notice to adverse parties, and other due proceedings had, may adjudge that such applicant is entitled, according to law, to receive a patent for his invention, as specified in his claim, or for any part thereof, as the facts in the case may appear. And such adjudication, if it be in favor of the right of the applicant, shall authorize the commissioner to issue such patent, on the applicant filing in the Patent Office a copy of the adjudication, and otherwise complying with the requisitions of law. And in all cases where there is no opposing party, a copy of the bill shall be served on the commissioner, and all the expenses of the proceeding shall be paid by the applicant, whether the final decision is in his favor or not."

In addition to Thomas Sayles and the other parties interested in what was alleged to be a conflicting patent, granted to James Dundas in 1859, and reissued in 1866, a copy of the bill was served upon the Commissioner of Patents, who thereupon filed a demurrer to the bill.

The case came up for argument upon the demurrer, which was based upon several distinct points, the most prominent among which were, first, that the facts, as set forth in the bill, showed that the plaintiff had abandoned the invention, and therefore was not entitled to the relief sought; second, that inasmuch as Marsh's proceedings before the Patent Office were, in contemplation of law, *ex parte*, he had a right, under section 48 of the act of July 8, 1870, to appeal from the adverse decision of the Commissioner to the Supreme Court of the District of Columbia, sitting in banc, and that he was bound to exhaust his remedy in that direction before proceeding by a bill in equity, as provided in section 52, this latter section, it was urged, being designed to furnish a remedy *immediately* upon a refusal by the commissioner to grant a patent only in those cases—*e. g.*, in interferences—in which his action is made final.

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Only one of the various grounds of demurrer was considered by the court in its opinion.

Goodwin, Larned & Towle, for complainant.

Fisher & Duncan, for Commissioner of Patents.

DRUMMOND, J.

This is a bill filed under section 52 of the revised patent law of July 8, 1870, which authorizes a bill to be filed in equity when a patent has been refused.

A demurrer has been put into the bill by the Commissioner of Patents; and, so far as it is necessary to state the facts of the case, they here follow:

In July, 1851, Marsh, the plaintiff, made application for a patent for an "improvement in cultivators." The same month his claim for a patent was rejected by the office. In November, 1851, he made application for, and there was refunded to him, twenty dollars of the duty fee which he had paid previously.

In August, 1851, James Dundas applied for a patent for substantially the same improvement. In December, 1852, this application was rejected by the Patent Office. This rejection, some years after, was reconsidered, and in February, 1859, a patent was granted to Dundas.

In October, 1866, Dundas obtained a reissue; and very soon after, Thomas Sayles, one of these defendants, as assignee of the Dundas patent, filed a bill in this court against one Hapgood and others, to restrain them from infringing the letters patent of Dundas. In October, 1869, this court decided the Dundas patent invalid, because Marsh was the prior inventor. (The case is reported in 3 Fisher, 632, and in second volume Chicago Legal News, 9.)

Marsh did not know of the application and issuing of the patent to Dundas till 1865. He waited for the determination of the suit of *Sayles v. Hapgood et al.*, and in December, 1869, renewed his application, and in November, 1870, his claim was rejected. Decisions of Commissioner of Patents, 1870, p. 151.

In addition to these facts set forth in the bill, it alleges that Marsh never abandoned his invention to the public. There is no

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explanation whatever given, than as above, of the long delay, except that he supposed the decision of the commissioner in 1851 was conclusive, and that he was wholly uninformed of his rights. And he insists the Patent Office is estopped from setting up, in bar of his renewed application, the wrongful rejection of his claim and the issuing of a patent to another.

Various objections are taken in the demurrer to the bill, but we will consider only one, viz., that the bill does not make such a case as to entitle the plaintiff to the relief he seeks. And it seems to us that the legal result from the facts stated in the bill is, notwithstanding his denial to the contrary, that he did acquiesce in the action of the Patent Office in 1851, and therefore did abandon whatever claim he might have to the public; and, according to the view we take, it is not material whether the rejection of his claim was right or wrong. Concede that it was wrongful: if he insisted on his claim he was obliged, within a reasonable time, to take some action on the subject, either by an appeal from the commissioner or by a bill in equity in the proper court.

In this case he made no motion for more than eighteen years after the rejection of his claim, during all which time his invention remained in the Patent Office with such description as he had chosen to give. We think the simple allegation that he did not abandon his claim to the public is not enough to rebut the presumption arising from this state of facts. It is not necessary to decide whether any satisfactory explanation could be given of so long a delay. It is not furnished in this bill.

It is plain that, in consequence of the decision in the case of *Sayles v. Hapgood*, an attempt was afterward made to recall an abandoned claim. To sustain this bill would be to vitalize many an old forgotten claim that now lies buried under the rubbish of the Patent Office. We think it no answer to say that for his invention Marsh ought to have had a patent; because the meaning of that is, he ought to have had it, if he, within a reasonable time, and by the methods the law points out, sought to obtain it.

Section 35 of the patent law of 1870 declares "that any person who has an interest in an invention where a patent was ordered to issue, on the payment of the final fee, and who has failed to make payment within six months from the time when it was allowed, * * * shall have a right to make an appli-

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cation for a patent the same as in an original application : "*Provided*, that the second application be made within two years after the allowance of the original application ;" * * * "*And provided further*, that when an application for a patent has been rejected or withdrawn prior to the passage of this act, the applicant shall have six months from the date of such passage to renew his application, or to file a new one ; and, if he omit to do either, his application shall be held to have been abandoned."

It is argued that the plaintiff is within the terms of this section, and that the second proviso applies literally to the facts of this case. It is true that the application of the plaintiff for a patent was rejected prior to the passage of the act, and it is insisted that the sequence to this is that the applicant has six months from the date of its passage to renew his application. This is in fact the letter of the proviso, and yet it must be true that it is subject to the implied condition that the applicant has not lost his right to make the application, by abandonment or surrender of the same. It could not have been intended to restore what had already been voluntarily given to the public, or what had become the property of the public by the neglect or refusal for a series of years to prosecute what was originally a valid claim. Here the neglect or refusal had continued for more than eighteen years, and we can not think that the proviso in section 35 was intended to include so stale a claim as this. It may be admitted that, as stated in the last clause of section 35, abandonment is a question of fact, and we hold, notwithstanding the denial and pretexts to the contrary stated, that Marsh did in fact abandon his claim to the public : that such is the necessary conclusion from the allegations contained in the bill.

The demurrer will, therefore, be sustained.

THE RUMFORD CHEMICAL WORKS

vs.

JOHN E. LAUER. IN EQUITY.

The first and second claims of the reissued letter's patent for an "improvement in pulverulent acid for use in the preparation of soda powders, farinaceous food, and other purposes," granted to the Rumford Chemical Works, June 9, 1868, as assignees of Eben N. Horsford, as inventor, the original patent having been granted to Horsford, April 22, 1856, reissued to the plaintiffs May 7, 1867, and again reissued to him June 9, 1868—namely: 1. "As a new manufacture, the above-described pulverulent phosphoric acid;" 2. "The manufacture of the above-described pulverulent phosphoric acid, so that it may be applied in the manner and for the purpose described"—are void for want of novelty, regarding the second claim as one to the described process of making the acid claimed in the first claim as a new manufacture.

Two chemical processes held to be the same, although the proportions of the ingredients used in the two were not the same.

The products of the two processes held to be the same.

Section 9 of the act of March 3, 1837 (5 U. S. Stat. at Large, 194), is designed to allow a patentee to recover on one claim of his patent, notwithstanding other claims in it are void for the want of novelty, but it requires that the parts claimed without right, and the parts rightfully claimed, shall be definitely distinguished from each other in the claims.

The third claim of the said patent—namely: 3. "The mixing, in the preparation of farinaceous food, with flour, of a powder or powders, such as described, consisting of ingredients of which phosphoric acid, or acid phosphates, and alkaline carbonates are the active agents, for the purpose of liberating carbonic acid, as described, when subjected to moisture or heat, or both"—is a claim to the mixing of the acid and the alkali with the flour, in a dry state, and stopping at that point, without applying moisture or heat.

Such claim is void, in view of the letters patent granted by the United States, May 1, 1849, to John Fowler, which described a mixture consisting of flour, and dry, powdered tartaric acid, and a dry, powdered, alkaline carbonate, requiring only the addition of water to make dough.

The substitution of phosphoric acid, or acid phosphate, in the mixture re-

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ferred to in such claim, in place of the acid named in Fowler's patent, was a mere formal and colorable alteration of Fowler's mixture, and not an invention, and not the subject of a patent.

The fourth claim of the said patent—namely : 4. "The use of phosphoric acid or acid phosphate, when employed with alkaline carbonates, as a substitute for ferment or leaven, in the preparation of farinaceous food " —is a claim to the actual use of such acid and alkali in making raised dough, and is valid.

It required experiment and invention to find out whether phosphoric acid could be used in place of tartaric acid practically and successfully, and with safety to health.

Proper form of decree, on the infringement of the fourth claim.

Motion to amend a bill of complaint denied.

Motion to open proofs, and for a rehearing, granted.

(Before BLATCHFORD, J., Southern District of New York, September, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for an "improvement in pulverulent acid for use in the preparation of soda powders, farinaceous food, and for other purposes," granted to Eben N. Horsford, April 22, 1856; assigned to the complainants, a Rhode Island corporation; reissued to them May 7, 1867; and a second time June 9, 1868. The infringement alleged in the bill was the making and selling, by the defendant, of pulverulent acid, in infringement of said reissued patent of 1868. The defendant, in his answer, admitted that he has made and sold improved acid compound for use in baking and cooking, under the letters patent granted to him February 19, 1867.

The specification of the plaintiff's patent stated the invention to be "a new pulverulent acid for use in the preparation of soda powders, farinaceous food, and for other purposes." It then described the acid and the mode of its preparation. It said: "Carefully washed and properly burned bones, after being ground, are put into freshly diluted oil of vitriol, with continual stirring and in the following proportions: Five hundred pounds of the above described bones (sometimes called bone-ash), four hundred pounds of oil of vitriol, and one thousand pounds of water. These ingredients are stirred, from time to time, for about three days, when, ordinarily, the action will be completed, and the resultant products will be phosphoric acid, superphosphates, and sulphate of

lime, or gypsum, with a small proportion of salts of magnesia and soda, in a paste-like mass." Various methods were then described for making this mass pulverulent: 1. Mixing it, while moist, with any farinaceous substance, drying it slowly in the sun or with artificial heat not above 150° of Fahrenheit, and pulverizing it; 2. Mixing it with freshly burned gypsum, drying it in the sun, or by artificial heat, and pulverizing it; 3. Mixing it with stearine or other fatty bodies, drying it and pulverizing it; 4. Leaching the mass, mixing the concentrated extracts with burned gypsum or stearine, drying it and pulverizing it; 5. Drying and pulverizing it without admixture. All of these modes were stated to have given desirable results, but a preferable mode was then described, which consisted in leaching the mass, concentrating the mass to 25° Baume, thereby obtaining a solution consisting of phosphoric acid and phosphate of lime, with slight traces of other salts, substantially freed from gypsum or sulphate of lime, heating ten gallons of this mixture to boiling, adding four pounds of perfectly white bone-ash, continuing the boiling until the concentrated liquid mass, containing in solution the added bone-ash, became pasty, cooling the mass, adding seventy-six pounds of wheaten flour, mixed to a uniform paste, adding sixteen pounds of potato starch, carefully mixed, sifting it through a sieve with quarter-inch meshes, drying it thoroughly at a temperature of not over 150° Fahrenheit, and pulverizing it. The sole object of these manipulations of the paste-like mass was to obtain it in the shape of powder. The specification said: "The object is to obtain phosphoric acid in such form, that is, a pulverulent powder, so that it may be intimately mixed with any alkaline carbonates, or other sensitive chemical compounds, without decomposing them or entering into combination with them, except upon the addition of moisture or the application of artificial heat. This requires that the phosphoric acid or acid phosphates be mixed with some neutral agent, as flour, or starch, gypsum, etc., so that action of the acid shall be prevented while dry, and shall, when moisture or heat is applied, be prompt, thorough, and equally diffused." * * * "As a dry, brittle powder, the article has the advantages of a pulverulent acid, may be handled, weighed, stirred, etc., as tartaric acid or cream tartar; and, as a substitute for these and a variety of pulverulent acids and acid

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salts, it has many uses in manufacture. It may, among other uses, be mixed with dry alkaline carbonates (carbonate of potassa or carbonate of soda), and remain in this state, without evolution of carbonic acid, until moistened or heated; thus making it a substitute for cream tartar and tartaric acid in the preparation of yeast powder or baking-powder. I am aware, that acid phosphates have been used as fertilizers; but because of the method pursued in their manufacture, their coarseness, dark color, and offensive impurities, they were totally unfit to be used in the preparation of food. I am also aware that acid phosphates and phosphoric acid, in a liquid, or more or less viscid condition, have been prepared in the laboratory of the chemist; but neither of these forms of phosphoric acid or acid phosphates possessed the properties essential to the purpose for which I design to employ them. The body which I have invented and above described is a form of acid phosphate of lime, or of mixed acid phosphate of lime and phosphoric acid, in which the phosphoric acid is the active and valuable constituent, free from the objectionable qualities of the above-mentioned bodies. It is dry, fine, white, or nearly white, homogeneous powder, unobjectionable on account of odor, taste, or composition, is an essential and important element in healthful nutrition, and is suited to be employed as the acid ingredient in the preparation of self-raising farinaceous food. In order to make the article possessing these qualities and suitable to this office, it is necessary that a powder should be made which can be, not only evenly comminuted and diluted, but one which shall have so little affinity for the moisture of the atmosphere that it can be mixed with flour and bicarbonate of soda, in the practical preparation of self-raising flour." * * *

"To meet the wants I have contemplated, the phosphoric acid must be dry, fine, homogeneous powder, white, or nearly white, and unobjectionable on account of smell, or taste, or healthfulness. It must be a dry powder, to permit it to be mixed with flour and bicarbonate of soda, and not evolve carbonic acid prematurely. If sticky, it would mix unequally, and, if moist, it would at once act on the bicarbonate of soda, to decompose it and set free carbonic acid. It must be a fine powder, in order, so to speak, that, with proper distribution, each minute quantity of flour may be brought into juxtaposition with a particle of acid

and a particle of bicarbonate of soda, so that, upon the application of moisture, the carbonic acid of the bicarbonate of soda shall be so uniformly liberated throughout the entire mass of dough, that it shall secure a uniform finely porous structure throughout the loaf. It must be homogeneous powder; that is, all particles must have a like acidity, in order that the decomposition of the alkaline carbonates shall be uniform, and thus prevent portions of the bread from becoming dark colored, heavy, and alkaline, by the action of undecomposed bicarbonate, while certain other portions may become sour, on account of uncombined acid." * * * "The acidified mixture above described as acid phosphate, or acid phosphate and free phosphoric acid, I have called 'pulverulent phosphoric acid.' The acid agent which this preparation places in available condition, is phosphoric acid, as tartaric acid is the available acid agent in cream tartar, and this is used as a substitute for tartaric acid or cream tartar, to decompose alkaline carbonates, as stated above, in the well-known process of making bread, cake, etc., without the use of ferment." The claims of the patent were as follows: "1. I claim, as a new manufacture, the above-described pulverulent phosphoric acid; 2. I claim the manufacture of the above-described pulverulent phosphoric acid, so that it may be applied in the manner and for the purposes described; 3. I claim the mixing, in the preparation of farinaceous food, with flour, of a powder or powders, such as described, consisting of ingredients of which phosphoric acid or acid phosphates and alkaline carbonates are the active agents, for the purpose of liberating carbonic acid, as described, when subjected to moisture or heat, or both; 4. The use of phosphoric acid or acid phosphates, when employed with alkaline carbonates, as a substitute for ferment or leaven, in the preparation of farinaceous food."

The case was brought to final hearing, on pleadings and proofs, and the court (Blatchford, J.) held, that, as the alleged infringement charged in the bill was confined to the making and selling of pulverulent acid, in infringement of the patent, only the first two claims of the patent were involved; that the first claim was a claim to be described pulverulent phosphoric acid, as a new article of manufacture; and that whether the second claim was to be regarded as a claim to the process of making such acid, or

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as being, in substance, the same as the first claim, in another form, it was unnecessary to determine in the view taken of the case, by the court.

The defenses set up were, that Horsford was not the original and first inventor of anything which had been made and sold by the defendant, and that the defendant had not infringed the patent. On the question of novelty, the defendant undertook to establish that Horsford was not the original and first inventor of a pulverulent acid phosphate of lime suitable to be used, with bicarbonate of soda, as a substitute for ferment or leaven, in the preparation of farinaceous food; and that an acid phosphate possessing all the properties and qualities of the acid phosphate described in the plaintiffs' patent was known in the arts prior to the date of Horsford's invention. The article relied on by the defendant as antedating Horsford's acid, was what was known as the three-fourths phosphate of Berzelius, described in the Hand-book of Chemistry, by Leopold Gmelin, volume 3, page 195, published in 1846. It was claimed, by the defendant, that such three-fourths phosphate was an acid phosphate of lime, possessing all the properties and qualities specified in the plaintiffs' patent as being possessed by Horsford's pulverulent phosphoric acid, and as being necessary, in admixture with bicarbonate of soda, for the preparation of self-raising farinaceous bread; that it was a dry, non-hygroscopic, fine, white, homogeneous powder, unobjectionable on account of odor, taste, or composition; that the phosphoric acid of such powder was the active agent, when the powder was mixed with bicarbonate of soda and moistened, in liberating carbonic acid, to give porosity to dough; and that such acid, in uniting with the soda of the carbonate, to evolve carbonic acid gas, formed phosphate of soda, which was deposited in the dough. The three-fourths phosphate was so called, as having a chemical composition of four atoms of oxide of lime and three atoms of phosphoric acid. The entire passage in Gmelin describing this phosphate was as follows: " $4\text{ Ca O}, 3\text{ PO}^5$. c. *Three-fourths phosphate*. Aqueous solution of phosphoric acid is saturated with the salt (*a*), the solution mixed with alcohol, and the white precipitate formed, washed with alcohol, and dried. White powder, having an acid taste and reddening litmus. With water it separates into the insoluble salt *b* and an acid salt, which remains

in solution (with one atom of acid?). (Berzelius, *Ann. Chim. Phys.* 2, 167.) If the salt *a*, recently precipitated, is immersed in a solution of hydrated phosphoric acid ignited just before it was dissolved in water, it gradually changes to a tenacious acid mass, which may be drawn out into threads and sticks to the teeth; after drying, it becomes yellow, transparent, and very friable. This substance has the same composition as *c*, and is decomposed in the same manner by water, but contains metaphosphoric acid. (Berzelius, *Lehrb.* 4, 277.) Graham regards this compound as metaphosphate of lime."

The court held, that the first claim of the plaintiffs' patent, if valid, would be infringed by the manufacture, sale, or use of any dry, fine, homogeneous powder, containing, as an active agent, phosphoric acid, in an available condition to be used as a substitute for tartaric acid, in decomposing an alkaline carbonate, in making bread without the use of ferment; that the prior existence of any such powder was an answer to such first claim; that the testimony showed, that, by following the description in Gmelin, a dry, fine, homogeneous powder was produced, containing, as an active agent, phosphoric acid, in an available condition to be used as a substitute for other acid, in decomposing an alkaline carbonate, in making bread without the use of ferment, and which was used for that purpose successfully, and which powder did not, by being kept, lose its acid strength or become inert, or absorb moisture from the air, or part with any of the qualities defined in the plaintiffs' patent as necessary in such a powder; that the pulverulent phosphoric acid, as a chemical substance, claimed in the first claim of the plaintiffs' patent, was shown, by the evidence, to have existed prior to the invention of it by Horsford; and that the first claim was, therefore, void, for want of novelty.

The court held, as to the second claim, that, if it were regarded as a claim to the process described in the patent for making the acid, the defendant had not infringed it, because his process was as different from that of the plaintiffs', as the plaintiffs' was different from that described by Berzelius or Gmelin; that the defendant dissolved bone-black in a mixture of muriatic acid and water, filtered the product, added sulphuric acid, and dried the resulting mass by heat, till it crumbled into a powder which

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was white and acid, and could be used, in connection with bicarbonate of soda, to liberate carbonic acid, to make bread; that bone-black was burned bones; that the muriatic acid dissolved the phosphate of lime in the bones from the carbon, the filtering got rid of the carbon, the action of the sulphuric acid created sulphate of lime, acid phosphate of lime and free phosphoric acid, and the heat drove off the muriatic acid; that Horsford removed the carbon from the bones by fire before he applied the sulphuric acid, while the defendant removed the carbon from the bones by muriatic acid, and then got rid of that acid by heat; that Horsford burned away the carbon from the phosphate of lime in the bones, while the defendant dissolved away the phosphate of lime from the carbon; that the products produced by the two processes were substantially identical with each other and with the product produced by the process of Berzelius and Gmelin, as powders containing phosphoric acid as an available agent to decompose alkaline carbonates, for the purpose of liberating carbonic acid to give porosity to dough, but the three processes differed each from the other, in substance; that it appeared, from the evidence, that the use of sulphuric acid, to act on what was indifferently known as bone-earth, or bone-ash, or bone-phosphate (being common bones containing phosphate of lime), and thus form sulphate of lime and liberate phosphoric acid or an acid phosphate of lime, was well known before the date of the alleged invention of Horsford; that the defendant did not, by the use of the process described in his patent, infringe the second claim of the plaintiffs' patent, considered as a claim to the process described in that patent for making the pulverulent acid therein described; and that, if the second claim were considered as a claim to the acid, as a product, the conclusions arrived at in regard to the first claim applied to it.

The third and fourth claims of the plaintiffs' patent not being involved in the case, the court remarked, that the questions, so largely discussed by the counsel for the plaintiffs, on the argument, as to whether Horsford was not the first person who used, as a substitute for yeast, a powder containing phosphoric acid as its active agent, and as to whether he was not entitled to a patent for applying phosphoric acid, in connection with an alkaline carbonate, to the raising of dough, and as to whether the third

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and fourth claims of the plaintiffs' patent were not valid, as containing inventions which involved the necessity of experiments, to determine whether phosphoric acid, when artificially introduced into bread, would be healthful, and whether and how the acid could be mixed with flour and with an alkaline carbonate, and remain inactive until moistened or heated, were questions which would arise on the patent when a suit was brought on it for the infringement of its third and fourth claims, but they were not presented in this case; and that it might be, that there were claims which Horsford could make and hold in reference to certain constituents and qualities of the pulverulent phosphoric acid that was made by his process, but the broad claim made to the acid described was not tenable.

The conclusion was, that the bill must be dismissed.

Before a decree was signed or entered on such decision, the plaintiffs moved to amend the bill, by adding to the averment that the defendant had made and sold pulverulent acid in infringement of the patent, an averment that he had used such acid. The motion was made on the ground that, as the answer of the defendant admitted that the defendant had made, used, and sold improved acid compound for use in baking and cooking, under letters patent granted to him February 19, 1867, such averment of user would, in connection with such admission, raise an issue as to the infringement of the third and fourth claims of the patent. It was shown, however, by affidavit, on the part of the defendant, that he had never used any acid phosphate with an alkaline carbonate, except in a few instances, for the purpose of experiment, and had never mixed any acid phosphate with an alkaline carbonate for sale, to be used in the preparation of farinaceous food, or for any other purpose; and it did not appear that the defendant had used the plaintiffs' acid otherwise than by making and selling the acid compound patented to the defendant. The court, therefore, held, that the defendant had not infringed the third and fourth claims of the patent; that the issues as to the first and second claims were raised by the averments in the bill as to making and selling the acid, as fully as if the averment in regard to using it were contained in the bill; and that the motion to amend the bill must be denied.

At the same time, a motion was made, on the part of the

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plaintiffs, to open the proofs in the case, for further testimony, and for a re-argument. The ground of the motion was, that two of the chemical experts for the plaintiffs did not, in preparing specimens which they produced as specimens of the three-fourths phosphate of Berzelius, follow the process of manufacture described in the public works referred to, in that such specimens differed in chemical composition from such three-fourths phosphate, and that they boiled the solutions they employed. It was also urged, that a three-fourths phosphate, fulfilling the formula of Berzelius, could be produced without the use of heat, and had been so produced by the plaintiffs' expert, and was, when so produced, practically inert and useless as a constituent of a baking-powder. The court held, that that branch of the case had not been fully developed in the testimony taken for the hearing; that the question as to the effect of using heat in the process had not been gone into to the extent which seemed desirable; that the question as to whether the substance produced as the three-fourths phosphate was made by the process of Berzelius, was a vital question in the case; and that both parties ought to be allowed to take further testimony as to the novelty of what was covered by the first and second claims of the plaintiffs' patent, as affected by the descriptions in the public works referred to, the case to be then heard on the testimony already taken and on the new proofs to be taken.

The case now came on to be reheard.

William Whiting and *Clarence A. Seward*, for complainants.

Charles M. Keller, for defendant.

BLATCHFORD, J.

Although the announced decision of the court, on the motion of the plaintiffs for a re-argument, was, that both parties would be allowed to take further testimony as to the novelty of what is covered by the first and second claims of the plaintiffs' patent, as affected by the description of the three-fourths phosphate in the *Lehrbuch* and in *Gmelin*, yet the formal order entered was an unrestricted one, re-opening the cause, with liberty to either party

to take further proofs, and to bring on the cause for a rehearing on the proofs then already taken and such further proofs as might be taken. A large mass of further testimony has been taken, on all the points involved in the cause, and it has been re-argued.

The first two claims of the patent are the only ones involved in this suit. As to them, the contest is as to their novelty. Regarding the second claim as a claim to the described process of making the acid claimed in the first claim as a new manufacture, the process so described consists, so far as substance is concerned, in mixing together five hundred pounds of bone-ash (made by grinding burned bones), and four hundred pounds of freshly diluted oil of vitriol (which is sulphuric acid), and one thousand pounds of water, stirring the ingredients from time to time, for about three days, and drying and pulverizing the resultant mass. The resulting pulverized powder is claimed in the first claim, as a new manufacture. It is said, in the specification, to consist of phosphoric acid, superphosphates, and sulphate of lime, or gypsum, with a small proportion of salts of magnesia and soda.

The process of the plaintiffs' specification is fully anticipated by the description of Lawes' process of making a dry superphosphate, which was not before the court on the former hearing. The Lawes process was published in England in 1845, in an article in volume 5 of the Journal of the Royal Agricultural Society of England, entitled, "On the action and application of dissolved bones." The article says: "Where calcined bones are used, owing to their containing merely the earthy portions of the bones, and to their being so easily dissolved, a dry superphosphate may be formed. For effecting this Mr. Lawes * * * gives the following excellent and simple directions for making this superphosphate: Calcined bones are to be reduced, by grinding, to a very fine powder, and placed in an iron pan, with an equal weight of water (a cast-iron trough, such as are sold for holding water for cattle will do). A man with a spade must mix the bone with the water until every particle is wet. While the man is stirring, an assistant empties, at once, into the pan, sulphuric acid, sixty parts, by weight, to every one hundred parts of bone. The acid is poured in at once, and not in a thin stream, as commonly recommended. The stirring is continued

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for about three minutes, and the material is then thrown out. With four common farm-laborers and two pans I have mixed two tons in one day. The larger the heap that is made, the more perfect the decomposition, as the heap remains intensely hot for a long time. It is necessary to spread the superphosphate out to the air for a few days, that it may become dry." The evidence shows that the Lawes process is the same as that of the plaintiffs' patent. In each, ground calcined bones are mixed with water and sulphuric acid, the proper chemical action and decomposition are allowed to take place, and the result is a dry product, capable of being pulverized. The relative proportions of the three materials—bone-ash, sulphuric acid, and water—differ somewhat in the two processes. Lawes uses ten parts in weight of bone to ten of water, and six of sulphuric acid. The plaintiffs prescribe ten of bone to twenty of water, and eight of sulphuric acid. But their specification says: "It will be obvious to any practical chemist that the above-described processes of producing this pulverulent acid may be modified in various ways. The proportions of the agents employed may be varied somewhat without materially affecting the result." The prescribed quantity of sulphuric acid in the patent is larger, in proportion to the bone, than in Lawes' process. But it is shown to have been a well-known chemical fact, that the greater or less acid strength of the product of such a mixture would be due to the greater or less relative proportion of sulphuric acid used. There is no invention in so varying proportions as the specification itself, in effect, states. The process remains, in substance, the same. There can be no doubt that Lawes' process, if it had been first resorted to subsequently to the issue of the plaintiffs' patent, would be an infringement of that patent.

The processes being the same, the natural conclusion would be that the products would be substantially alike. The evidence is to that effect. It shows that the product of the Lawes process, as described, is, to all practical intents and purposes, the same thing as the product of the plaintiffs' process, and capable of being used for the purposes set forth in the specification of the plaintiffs' patent. It is no invention, in preparing the article to be used as an ingredient in food, to carefully wash the bones clean. The direction, as to each process, is simply to use sul-

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phuric acid or oil of vitriol, and calcined or burned bones, generally. Any impurity of extraneous matter that would exist in the sulphuric acid or the bones, or in the product because of the quality of such acid or of such bones, in the one case, would exist in the other. The evidence shows that the Lawes product is equally non-hygroscopic with that of the plaintiffs' process; that the one is as much entitled to the appellation of a dry powder as the other, and no more; and that the Lawes product has sufficient acid strength, of a permanent character, for use for the special purpose of an ingredient in a yeast powder.

The first two claims of the plaintiffs' patent are, therefore, anticipated by the Lawes process and product. This conclusion makes it unnecessary to consider any of the other matters discussed on the question of novelty.

It was suggested, on the hearing, that, as the defendant uses starch with his acid, and as the plaintiffs' patent states, as its preferred method of preparing the acid, the use of starch in it, the first claim ought, at all events, to be held good for the acid when prepared with starch in it, on the ground that starch had never before been used as an ingredient in it. This view was urged on the idea that the case falls within section 9 of the act of March 3, 1837 (5 U. S. Stat. at Large, 194), which provides, that when a patentee claims, in his specification, "to be the original and first inventor or discoverer of any material or substantial part of the thing patented, of which he was not the first and original inventor, and shall have no legal or just right to claim the same, in every such case the patent shall be deemed good and valid for so much of the invention or discovery as shall be truly and *bona fide* his own, provided it shall be a material and substantial part of the thing patented, and be definitely distinguishable from the other parts so claimed without right as aforesaid; and every such patentee, his executors, administrators, and assigns, whether of the whole or of a sectional interest therein, shall be entitled to maintain a suit at law or in equity on such patent, for any infringement of such part of the invention or discovery as shall be *bona fide* his own, as aforesaid, notwithstanding the specification may embrace more than he shall have any legal right to claim." This section has no application to the case. It is designed to allow a patentee to recover on one claim of his patent, notwith-

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standing other claims in it are void for want of novelty. But it requires that the parts claimed without right, and the parts rightfully claimed, shall be definitely distinguishable, as matter of fact, on the face of the claims—that is, be definitely distinguished from each other in the claims. Here there is no distinction, in the claims, between acid prepared with starch and acid prepared without starch. If there were a claim to the acid prepared with starch, and a separate claim to the acid prepared without starch, there might, under the statute, be a recovery on the former, although the latter were void for want of novelty, provided there had been no unreasonable delay in filing a disclaimer to the latter.

The bill must be dismissed, with costs.

AT the same time with the foregoing case, the case of the same plaintiffs against John Hecker and George V. Hecker, founded on the same patent, was heard, being argued by the same counsel.

BLATCHFORD, J.

The patent involved in this case is the same one sued on in the case brought by the same plaintiffs against Lauer, just decided. The present defendants are charged with infringing all four of the claims of the patent. The first two are disposed of by the decision in the case against Lauer.

The third and fourth claims are as follows: "3. I claim the mixing, in the preparation of farinaceous food, with flour, of a powder or powders, such as described, consisting of ingredients of which phosphoric acid, or acid phosphates, and alkaline carbonates, are the active agents, for the purpose of liberating carbonic acid, as described, when subjected to moisture or heat, or both. 4. The use of phosphoric acid, or acid phosphates, when employed with alkaline carbonates, as a substitute for ferment or leaven, in the preparation of farinaceous food."

The proper construction of the third claim is, that it claims the mixing of the acid and the alkali with the flour, in a dry state, and stopping at that point, without applying moisture or heat. In other words, it claims the preparing of self-raising flour, containing the powder or powders named in the claim, and requiring merely the application of moisture or heat to enable it to be leav-

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ened. Against the novelty of this claim, the defendants set up a patent granted by the United States, May 1, 1849, to John Fowler, assignee of Henry Jones, the inventor. The specification of the Fowler patent says that the invention covered by it consists "in the adding to a certain weight of flour, such quantities of alkalines and acids, sugar and salt, as shall, by the addition of water only, enable such prepared flour to be manufactured into bread, etc., without the use of fermenting matter." The specification then describes a mode of making the prepared flour, by first mixing with one hundred weight of dry flour ten and a half ounces of fine dry tartaric acid; and then, after two or three days, mixing with the flour and acid twelve ounces of bicarbonate of soda, or fourteen ounces of bicarbonate of potassa in fine powder, twenty ounces of muriate of soda (common salt), and eight ounces of loaf sugar in fine powder. The specification adds: "The quantities of acids and alkalies may have to be slightly varied, according to their quality; but the point to be attained is the neutralization of both. My prepared flour, when used to make bread, biscuits, or other like food, only requires to be made into dough with cold water, in the proportion of ten ounces of water to one pound of flour for bread, and about six ounces to one pound of flour for biscuits, and baked at once in a well-heated oven. I do not claim mixing acid and alkali with flour, as a substitute for yeast, nor do I claim mixing one of these ingredients with flour in the dry state, when the other is dissolved, for making bread." The claim is this: "Mixing both the acid and alkali with the flour in the dry state, sugar and salt being added or not, at will, substantially in the manner and for the purpose herein set forth, as a new article of manufacture."

In view of the Fowler patent, it is impossible to see any patentable novelty in the third claim of the plaintiffs' patent. The prepared flour made with the ingredients named in said claim contains the phosphoric acid, or the acid phosphate, as a mere equivalent for the tartaric acid of Fowler's prepared flour—as much so as a screw or a lever is a mechanical equivalent for a pulley. Any pulverulent acid capable, on the application of heat or moisture, of liberating carbonic acid to make the dough porous, is, in the prepared flour, the equivalent of any other pulverulent acid having the like capacity, so far as regards such prepared

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flour, before heat or moisture is applied. Everything of substantive, patentable invention, in regard to prepared flour, as composed of an acid in dry powder and an alkaline carbonate in dry powder, mixed with dry flour, is found in the patent of Fowler. Especially is this so, in regard to the plaintiffs' patent, in view of the fact that the specification of that patent discloses no mode of practically mixing the ingredients composing the self-raising flour, but merely states that the acid "may be mixed with flour and bicarbonate of soda," as a substitute for cream tartar and tartaric acid, "in the practical preparation of self-raising flour."

The fourth claim is a claim to the use of the acid and an alkaline carbonate, as a substitute for ferment or leaven, in the preparation of farinaceous food. This is a claim to the actual use of such acid and alkali in making raised dough. Nothing is shown which anticipates this claim, and the invention covered by it is patentable. Horsford was the first to use phosphoric acid, or an acid phosphate, for the purpose. It required experiment and invention to find out whether phosphoric acid could be used in place of tartaric acid, practically and successfully, and with safety to health. As it is admitted and proved that the defendants have used what is substantially the same acid described in the plaintiffs' patent, mixed with an alkaline carbonate, as a substitute for leaven, in making bread from flour, they have infringed the fourth claim of that patent, and there must be a decree for the plaintiff for an account of profits as to that claim. The question of costs is reserved.

On the settlement of the decree, in the case against the Hecker, the plaintiffs asked to have the court review its decision as to the third claim, and to consider whether, in the light of the decision of the Supreme Court in the case of *Rees v. Gould*, 2 Official Gazette of Patent Office, 624, the third claim was not valid. They also asked that the decree should direct that the account to be taken, on the infringement of the fourth claim, should include an account of the profits derived by the defendants from the sale of the mixture described in the third claim, on the ground that the defendants, by selling such mixture, were joint infringers of the fourth claim, with every purchaser of such mixture from them, who used it in infringement of the fourth claim.

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BLATCHFORD, J.

In respect to the validity of the third claim of the plaintiffs' patent, I am referred to the case of *Rees v. Gould*, decided by the Supreme Court of the United States, 2 Official Gazette of Patent Office, 624. I do not understand that any different doctrine is laid down in the opinion delivered in *Rees v. Gould*, from that which is laid down in the opinion delivered in the same court, in *Seymour v. Osborne*, 11 Wallace, 516, 555, 556, by the same judge, Mr. Justice Clifford. In view of the construction given by me to the third claim of the plaintiffs' patent, and of what is found in the Fowler patent, and even irrespective of the evidence as to what was known prior to the plaintiffs' patent in regard to phosphoric acid and acid phosphate, and their chemical and other qualities and properties, I am confirmed, on full reflection, in the views and conclusions stated in my former decision in this case, and am of the opinion that, in respect to such third claim, the substitution of phosphoric acid or acid phosphate, in the mixture referred to in such claim, in place of the acid named in Fowler's patent, was a mere formal and colorable alteration of Fowler's mixture, within the doctrine of *Seymour v. Osborne*, and not an invention, and not the subject of a patent.

At the hearing it was admitted and proved that the defendants had used what was substantially the same acid described in the plaintiffs' patent, mixed with an alkaline carbonate, as a substitute for leaven in making bread from flour. It was therefore held that they had infringed the fourth claim of the patent. The proper decree, therefore, is that they have infringed the fourth claim, and that they account for the profits in consequence of their infringement of said fourth claim. Whether such infringement has taken place solely by a use of what is named in the fourth claim, irrespective of any selling by the defendants of the mixture claimed in the third claim, or whether such infringement has taken place also, through sales by the defendants of such mixture, in connection with a use of it by the vendees, under the fourth claim, will be a question to arise on evidence to be given, on the accounting, as to the facts attending such sales, in connection with the use, by the vendees, of the things sold.

THE RUSSELL AND ERWIN MANUFACTURING COMPANY

vs.

BURTON MALLORY ET AL. IN EQUITY.

A patent was granted to W. in 1867 (applied for in 1865), with a claim identical with that contained in a patent granted in 1864 to M. In a suit in equity, brought by W., against M., for infringing such claim, the answer of M. insisted on the validity of such claim in the patent to M.: *Held*, that M. could not, on the hearing, take the ground that the claim of the patent to W. did not claim patentable subject-matter.

A departure from the defense alleged in the answer is not permitted in courts of chancery, where the complainant is entitled to call upon the defendant to answer under oath.

A claim for "the combination of a lock and latch, when the latch-bolt and its operative mechanism are arranged in a case or frame, independent of the main case, and constructed so that the latch-bolt may be reversed, substantially as described, without removing the said independent case from the main case," is not open to the objection that it claims merely the combination of a lock and latch, and so claims merely the aggregation of two things which have no relation to each other, in performing their separate functions, and which are not patentable as a combination.

The claim does not claim, as an invention, the combination of a lock with a latch, but claims a reversible latch, constructed as described, to be used in connection with and inclosed by the lock-case.

The expression in the claim, "the combination of a lock and latch," is not to be technical'y construed. The terms used mean the same as "a united lock and latch," or "a lock and latch," when indicating a single article of manufacture or use.

Mere lapse of time, before an inventor applies for a patent for his invention, does not, *per se*, constitute an abandonment of the invention to the public.

The question of abandonment, whether in regard to the time prior to two years before the application for the patent, or to the time included in such two years, is a question of fact.

As by express statute enactment, an inventor may have two years of *tría* in the public markets, putting his invention into use and on sale, there

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is no reason to conclude that he may not have the like period, at least, within which to offer his right, as inventor, to the examination of others, or to seek a purchaser, and still be entitled to his patent.

An inventor is not required to put his invention into public use before he applies for his patent.

Mere public use and sale of an invention before a patent for it is applied for, does not invalidate the patent, unless the public use and sale were with the consent and allowance of the inventor.

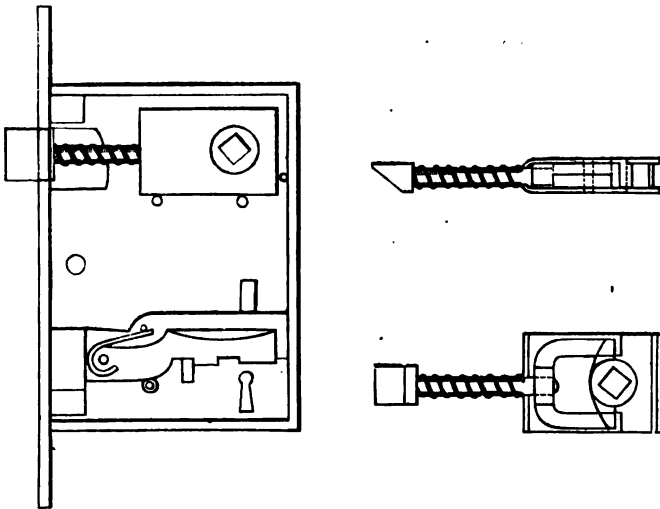
Letters patent for "improvements in reversible locks and latches," granted to Rodolphus L. Webb, December 31, 1867, are valid.

(Before WOODRUFF and SHIPMAN, JJ., District of Connecticut, September, 1872.)

FINAL hearing on pleadings and proofs.

Suit brought upon letters patent for "improvements in reversible locks and latches," granted to Rodolphus L. Webb, December 31, 1867, and assigned to complainants.

The invention is illustrated in the accompanying diagram.



The left-hand figure represents a case containing an ordinary lock mechanism in the lower part, and, in the upper part, the reversible latch shown in the two detached views on the right.

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This latch is so formed by inclosing the inner end of the latch bar, with the arms and hub in a thin case, as shown, that the case may be placed within the main case of the lock, between the two plates thereof, so as readily to slide a short distance forward or backward. The knob spindle being removed, the whole case may be drawn forward by applying the thumb and finger to the projecting end of the latch until the square portion is clear of the external mortice in the case, when the latch may be turned half round, pushed back, and held in place by inserting the spindle. The latch may be thus adapted to a right or left-hand door.

C. E. Mitchell and *B. F. Thurston*, for complainants.

C. F. Blake and *C. R. Ingersoll*, for defendants.

WOODRUFF, J.

The bill of complaint herein sets out a patent for "improvements in reversible locks and latches," granted December 31, 1867, to Rodolphus L. Webb, and by him assigned to the plaintiffs May 12, 1868, and alleges that the defendants have infringed, and are still infringing that patent, by the manufacture and sale of locks and latches constructed, in substance, according to the invention patented. It prays an injunction and an account of profits.

The answer denies that Webb was the first inventor; and alleges that the defendant, Burton Mallory, was the first inventor of the said improvement, and that he obtained letters patent therefor June 7, 1864. It admits that the defendants have made and sold reversible latches constructed in accordance with the said letters patent, and are intending to continue such manufacture, but denies that therein they infringe any rights of the complainants.

By an amendment of the answer, the defendants further aver that if it shall appear that Webb was the first and original inventor of the reversible latch described in the letters patent issued to him, the said invention was, before his application for letters patent, abandoned, and no steps were taken by him to bring his invention into public use until after the said Burton Mallory had, by his original invention, discovered the said improvement, and

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taken out letters patent therefor, and the defendants had, by their diligence, at large expense and great effort, given to the public the benefit of said invention by placing the said improved latches on sale in the principal markets of the United States; and that said Webb, for many months before his application for the letters patent issued to him, knowingly, and without objection, permitted said Mallory and the defendants to use the said invention, and to make and sell in the various markets of the United States large quantities of latches constructed according to said invention, and the complainants are, by reason thereof, estopped from asserting any right under the said letters patent, and from denying the right of the defendants to use the said invention, and that by such abandonment, negligence, and laches, the said Webb forfeited any right he otherwise might have had to the said letters patent, and the same are invalid and of no effect.

By this answer we are relieved of any necessity to examine the details of the invention, or compare the two inventions of Webb and Mallory, to ascertain whether, if the patent held by the complainants be a valid patent, the defendants are infringers. The answer admits that they are using the invention for which the letters were granted to Webb, and their defense is an attempted justification of that use. We may, therefore, confine ourselves to the consideration of the justification thus set up by the defendants.

Some account of the improvement which constitutes the invention claimed may be necessary to make certain points urged upon our attention intelligible.

Locks and latches were formerly made so permanently constructed and arranged that they could be used upon one edge of a door only, the catch or bolt of the latch being beveled on one side; a latch that could be applied to a right-hand door could not be used on a left-hand door. Separate locks and latches must therefore be made, and purchasers must, before buying, assure themselves upon which edge or side of their doors the hinges would be placed. In practice this was found inconvenient, and mistakes were made in purchasing, or changes in the course of erecting houses, in the precise arrangement of doors, or in the swing thereof, gave great trouble. It was therefore very desirable to have locks and latches so constructed that the latch or beveled

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catch could be readily, by a slight change of adjustment, reversed; whereby, whatever lock and latch was purchased, it could, at the option of the purchaser, be applied to the left or to the right-hand edge of the door. Later experience also suggested that while it was desirable that the latch should be capable of such adjustment or reversal either before or after the lock was inserted in or attached to the door, it ought not to be so left, when the whole was in complete order for use, that the latch could then be changed or reversed, because this would enable careless or mischievous persons to reverse it, or expose it to reversal by accident.

In general terms, the invention in question consists in inclosing the inner end of the latch and the arms and hub, by means of which the latch is to be drawn back, in a thin case, so as to preserve their constant due adjustment, and placing that case within the main case of the lock, between the two plates thereof, so as readily to slide between studs projecting from the surface of the main plate a short distance forward and backward. In this condition of the parts the thumb and finger being applied to the beveled end of the latch, readily pull it forward, and its inner end being round and fitted to its yoke within the small case by a knob or a swivel-joint, it is turned around, and so may be adapted either to a right-hand or left-hand door. Being turned, it is pushed backward to its proper and permanent position. The insertion of the spindle, on the ends of which the door-knobs are placed, then holds the inner case with the tumbler or hub and yoke, with the latch also, firmly in place.

1. It is earnestly insisted that the patent granted to Webb, on which alone the complainants rely, is void, upon facts that are not controverted or are clearly established, viz., that locks were common and latches were common, and locks combined with latches were common, long before the alleged invention of Webb, and that his letters patent purport to be for a combination merely; that, conceding that Webb's improved latch was new, he patented simply the combination of the latch with the lock, which was simply aggregating two things which had distinct and separate operations, each unaffected by the operation or even the presence of the other; that, in short, as there was no relation between them in the performance of their several functions, and no reciprocal

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action, they are not patentable as a combination. The complainants' patent is, therefore, void.

It may not be immaterial to observe that no such defense is intimated in the answer of the defendants. Not only so, the answer itself, in connection with the production of the patent of Mallory, set up in the answer, and there insisted upon as valid, impliedly asserts the validity of a patent for the very subject described and claimed to be secured thereby.

It is allowing to the defendants very large liberty to permit them to depart wholly from the ground taken in their answer as a defense, and that, too, when they set up in their answer a patent which is liable to the same criticism, and insist upon its validity, notwithstanding it be found that Webb was the first inventor.

The claim in the patent to Mallory set up in the answer is in these words:

"What I do claim as my invention, and new and useful, and desire to secure by letters patent, is the combination of a lock and latch when the latch-bolt and its operative mechanism are arranged in a case or frame independent of the main case, and constructed so that the latch-bolt may be reversed, substantially as described, without removing the said independent case from the main case.

The claim of the patentee, Webb, as will be stated presently, is in very nearly the same, if not in the identical words. The defendants have not, in their answer, thought proper to raise any question of the validity of such a claim. They assert their own title to the invention, and justify their use thereof upon grounds which import the validity of the claim in Mallory's patent. Now, on this hearing, the argument of the counsel reverses and contradicts the defense which the defendants have set up, under their own oath. The defendants are, for all the purposes of this case, bound by their answer. A departure from the defense therein alleged is not permitted in courts of chancery, where the complainant is entitled to call upon the defendant to answer under oath. The answer thus put in must be deemed and held to disclose the true and only defense which the defendants have to the allegations of the bill, and they are thereby concluded. It is with the issues thereby raised that the court has to deal.

This case itself furnishes an illustration of the propriety of the

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rule. Let it be supposed that the defendants wholly fail to establish, by proofs, any of the defenses set up in the answer, but the court should be of opinion, upon the proofs, that the patent to Webb was void upon the grounds now, with great ingenuity and skill, urged by the defendants' counsel, and for that reason should decree a dismissal of the bill of complaint. The reasons for the decree, and the arguments urged by counsel, would not appear by the record. The record would indicate that, upon the issues made by the answer, the defense therein was found and adjudged, when, in truth, the contrary was the fact. The decree would thus purport to establish that Mallory, and not Webb, had the prior right, when the court made no such decision. The record would seem to establish what the defendants claim, namely, that the patentee, Webb, was not the prior inventor, or had, by his laches, lost his right to his patent, in favor of the defendants, who would thus be left to stand before the world holders of Mallory's patent, affirming its validity to secure to them a monopoly. when, in truth, they had, outside of and contrary to what the record discloses, obtained a decision which was fatal to both patents. In short, the decision would be in conflict with the record.

Nevertheless, in view of what was claimed by counsel for the defendants, of the force and effect of certain other decisions of this court, and their supposed influence upon the validity of Webb's patent, we have deemed it proper to consider the point, and to show that (irrespective of the objection that such defense or claim is a departure from and inconsistent with the answer) it has no real foundation.

2. The claim in the specification annexed to the patent of Webb, which is thus attacked, reads as follows: "What I claim, therefore, and desire to secure by letters patent, is the combination of a lock and latch, when the latch-bolt and its operative mechanism are arranged in a case or frame independent of the main case, and constructed so that the latch-bolt may be reversed, substantially as described, without removing the said independent case from the main case."

We are not inclined to depart from what was said in *Hailes v. Van Wormer*, 7 Blatchf. C. C. 443, and *Sarven v. Hall*, 9 Id. 524, (*ante*, 415), on the distinction between a patentable combination and a mere aggregation of old elements having no relation to each

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other, or any reciprocal or co-operative action to produce the result attained. But claims should be read in connection with the specification itself, and read in the light gained therefrom; and it is proper to give such construction to the language employed as expresses the evident intention, if that may be done. It is manifest, from the whole specification and claim, that the inventor here had no idea of claiming a combination of a lock with a latch, as an invention. His specification shows that the reversible latch, constructed as described, to be used in connection with and inclosed by the lock-case, was the improvement which he had made. True, as a mere latch, it was immaterial whether the outer case had also within it the lock mechanism or not. Its presence or absence did not affect the operation of the latch, and, equally, the presence or absence of the improved latch did not affect the operation of the lock. Nevertheless, the improved latch was adapted to be used in the case of the lock, and the whole, as an aggregate, is mentioned; and the inventor declares that when such a latch as he has described is united with a lock by inclosure within the lock-case, as mentioned, it exhibits his invention. He might, no doubt, have claimed the improved reversible latch inclosed in any outer case. If that latch, in its construction, mode of operation, and arrangement for reversing, was new and useful, it was patentable, and his patent might have been more comprehensive than it now is. His patent is not to be held invalid because he only claims it when used in an outer case, containing also lock mechanism, if, in fact, his improvement was patentable; not even though there is no relation in the operation of the two, and no effect from the combination which either separately would not produce. Nothing in the cases cited forbids an inventor of a new device from taking a patent under a claim narrowed as closely as he sees fit, and, however much narrower than he might have claimed, the patent is valid.

We think, moreover, that the expression in the claim, "the combination of a lock and latch," is not to be technically construed. The whole specification shows what the improvement was, and that the lock mechanism has no effect upon its operation. The terms used mean just what is meant by "a combined lock and latch," or "a united lock and latch," or "a lock and latch," when indicating a single article of manufacture or use.

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It is that aggregate structure, when it contains within the main case the special arrangement and mechanism which the inventor describes, that he claims as his invention. In a somewhat analogous view, any machine or structure may be claimed, when it contains a new device or devices which are described by the inventor as improvements. The claim is for the whole, as a whole, when and when only it contains the new devices. In a certain sense, the lock and latch have a relation to each other, the same relation that the frame of a machine has to the devices sustained thereby. Such device may be no more patentable in a frame of one description rather than another, but if the patentee chooses to restrict himself to his new device, when used in some special connection, he does no wrong to the public and violates no rule of law.

3. On the question of priority of invention, we can not think it necessary to extend discussion. It is established, we think, by a very large preponderance of evidence. Indeed, there is little contradiction of the three witnesses who testify positively on the subject, two of whom have no interest in the controversy, and are wholly unimpeached. The contradicting witness is the same on whom the defense of abandonment of the invention almost solely depends, of whose credibility we shall have occasion to observe when treating of that subject. We think that no fair mind, weighing the evidence, can doubt that Webb made the invention in or prior to March, 1863, and that in that month it was perfected and embodied in a complete lock and latch fitted for use, or that Webb then deemed it a patentable invention, desired and expected to procure a patent therefor, and consulted Mr. Bliss, solicitor of patents, in order to obtain advice as to what was essential to preserve his right to such patent, exhibiting to him at the time his completed invention.

4. The remaining ground of the defense is that the patentee, although the first inventor, by his neglect and his silence, while the defendant, Mallory, also perfected and put into use and on sale the same invention, is precluded from asserting his claim, and has lost his right to the exclusive use of the invention. This ground of defense is exhibited in three forms: *First*, that Webb abandoned his invention to the public. *Kendall v. Winsor*, 21 How. 322, This, however, is not very strenuously insisted upon,

nor is it very distinctly stated in the answer, doubtless for the reason that, if this be established, all the public may use it, and the defendants have no exclusive right under the patent of Mallory. The claim involves this concession, and the defendants would not probably seek an adjudication which establishes that Webb was the original and first inventor, but that his invention had, by his voluntary act, become public property. Consideration of the proofs will, nevertheless, include this point, as well as the next, namely: *Second*, that Webb voluntarily abandoned the invention as useless; that, although his experiment proceeded so far as, in fact, to produce the device or structure, yet he deemed it of no value, or at least so treated it, and by his conduct placed it upon the footing of an abandoned experiment; and that therefore it in no wise stood in the way of Mallory, who himself made the same invention, procured a patent therefor, and put it into public use and on sale, so that the public derived the benefit of the use of the invention. Thus viewed, the case is supposed to come within the rule held in *Gayler v. Wilder*, 10 How. 477. And, *Third*, that the neglect of Webb to apply for a patent, and his silence while Mallory perfected his invention and put it into public use and on sale, and sold it extensively, ought, in equity, to estop Webb and the complainants, his assignees, from asserting the priority of the invention, and claiming the exclusive right which a valid patent would secure to them.

It appears by the proofs that the invention of Webb was complete, and actually embodied in a practical lock and latch, as early as the last week in March, 1863. His application for a patent was made on March 21, 1865. This is the interval, and the only interval of time within which the conduct of Webb is to be considered with reference to either of the above propositions included in this branch of the defense. The question of abandonment, in either view above suggested, is a question of fact, and to be determined by the evidence. Lapse of time does not, *per se*, constitute abandonment. It may be a circumstance to be considered. The circumstances of the case, other than mere lapse of time, almost always give complexion to delay, and either excuse it or give it conclusive effect. The statute has made contemporaneous public use, with the consent and allowance of the inventor, a bar,

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when it exceeds two years. But, in the absence of that, and of any other colorable circumstances, we know of no mere period of delay, which ought, *per se*, to deprive an inventor of his patent. /

As it respects abandonment to the public, the argument that such was the intention of the inventor would have been much stronger if, after perfecting his invention, he had proceeded publicly to make and sell the same, and voluntarily placed it in public use, accessible and available to any who chose to buy and use, for nearly two years before he made any application for a patent. The argument here pressed upon us that Webb did not intend to secure any exclusive right, or did not esteem the right of any value, or that he abandoned such right to the public, would, in such case, have been impressive; and yet the express terms of the statute secure to the inventor this interval, in which he may, if he please, test the usefulness and the value of his invention, by putting it into use and on sale, without being thereby barred of his patent, and it necessarily follows that, from the mere lapse of the period mentioned, no inference of abandonment arises.

If the matter be brought to the test of actual design and purpose, either to abandon the invention to the public, or to cast it aside as a useless invention or unsuccessful experiment, the proof seems to us to establish very clearly the contrary. Webb's continuous or repeated declarations, testified to by himself and by the solicitor of patents, to whom he applied for advice, his claim to priority of invention when he heard that Mallory was manufacturing a similar lock and latch, his offers to sell his invention to others, indicate that, in his mind, there was no purpose to forego the right which belonged to him as inventor, nor any conclusion that the invention should be abandoned. The purpose declared by him to the solicitor of patents, when he had first perfected his latch, he never relinquished. It is, no doubt, true that, although receiving but a moderate salary for the support of himself and family, he could easily have procured means to pay the expense of taking out a patent. His sale of the patent for a second invention would have enabled him to do this, as he is not shown to have been in debt. But it is plain what his purpose was in delaying his application. He did not propose to himself engage in business as a manufacturer. He had not means for such an un-

dertaking. The profits of his ingenuity he expected to realize by negotiation with others who were or should become manufacturers. His delay was, therefore, that he might perchance find some one to purchase, or might test the utility and value of his invention by submitting it to the appreciation of those who, being engaged in the manufacture and sale of locks, could better judge of its value than he could himself.

We find no reason for concluding that, when, by express enactment, an inventor may have two years of trial in the public markets, putting his invention in use and on sale, and yet be entitled to a patent, he may not also have the like period, at least, within which to offer his right as inventor to others, submit the invention to that test of its usefulness and value, and still be entitled to his patent. The lapse of two years is not the test of his right in this respect, nor is the lapse of any specified period conclusive. The law does not declare within what period after the invention a patent must be applied for, or that it must be applied for within any specified time. We do not mean that an abandonment to the public may not be made, or that an invention may not be given up and abandoned as a useless or unsuccessful experiment within less than two years. No particular time is necessary, but the fact must be proved, and the lapse of two years does not establish it. There may be sufficient reasons why a delay of a much greater number of years will not so operate. On the question of abandonment, in either aspect, time and circumstances, the acts and contemporaneous declarations of the party are all to be considered.

We have here the positive testimony of the inventor. We have his declarations to others. We have his taking advice on the effect of delay. We have his effort to recover his model or original of his invention, and his final sale of his right as inventor. Laying out of view, for the moment, the testimony of a single witness, there is no act or declaration of the inventor, down to the application for the patent, which is not in harmony with or which does not confirm the unequivocal testimony that there was at no time any design or purpose to forego his right as the inventor of the lock and latch in question. Of that witness, we observe that his testimony tends strongly to show that Webb abandoned this invention as a thing of no value; took to pieces the lock he had constructed in conformity with it; addressed himself to the con-

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struction or invention of some other device to accomplish the desired result, satisfied that what he had before done failed to accomplish it in a useful manner; used the parts of his first constructed lock in and toward his further and second invention; left such of the parts as could not be adapted to such second invention to go to waste as rubbish, and thenceforward entertained no idea of using or patenting such first invention, until he learned that Mallory had brought the same invention into use and put it upon sale. This witness is contradicted in all the material parts of this statement, and in the inference sought to be drawn therefrom, by more than three witnesses, none of whom are impeached otherwise than by his contradiction. True, Webb left the newly-invented lock and latch in the shop of Parkers & Whipple, where he was employed when he invented it. He declares that it was so left by oversight or forgetfulness at the time of his removal; and three persons testify to the distinct declarations of the witness above referred to—one of the proprietors of the shop, John A. Parker—that long afterward he had that lock and latch in his possession, and two of them testify to his refusal to give it up. These declarations were made on several occasions, and, as to two of the persons (Webb and an officer of the plaintiffs), on their separate personal application to him for the lock, at about the time when a patent was to be applied for. On the question of the time when the lock was invented, he is, in like manner, contradicted by three witnesses, who are clear and distinct in their testimony. We do not think it necessary to indulge in conjecture as to the motive of this witness to misrepresent, or to consider whether it be possible that he has persuaded himself that what he testified was true, or whether by any means he has been led into a mistaken belief as to the facts. It is sufficient that, upon the testimony in conflict with this statement, we are constrained to say that it would be wholly unsafe and improper to rest any conclusion in this case upon what he testified.

It follows, we think, that the proofs wholly repel any idea of abandonment of this invention by the inventor, in either sense claimed by the defendants, and show, on the contrary, a continuous claim to be the first inventor, a purpose to secure a patent for the invention, and some appreciation of its usefulness and value,

though, no doubt, according to the results now shown, that appreciation was greatly inadequate.

Much that has been already said is pertinent to the third claim above stated, to wit, that, by withholding his application for a patent, and by his silence, not putting his invention into actual public use for nearly two years prior to such application, Mallory meanwhile having made the same invention, and put the same on sale, Webb and his assignees are estopped. Permission to put an invention in public use for two years prior to the application, does not make it the duty of the inventor to do so for that or any other period before he applies. Prior to the act of March 3, 1839, 5 U. S. Stat. at Large, 354, sec. 7, such public use, with the consent and allowance of the inventor, destroyed his right to a patent. That act relieves the inventor from the danger of such a forfeiture, and that is all. The question of estoppel, now urged, stands, therefore, upon the same footing as if that act had not been passed. Is it then true that an inventor, who makes no secret of his invention, cherishes and declares his purpose to procure a patent therefor, exhibits it to those who, being engaged in manufacturing articles of a similar kind, are competent to judge of its value, in the hope that they may be disposed to purchase, he himself being in no situation, and having no means to engage in manufacturing—is an inventor, we ask, in these circumstances, estopped to assert a right to the invention, and to claim a patent, because his application is not made until nearly two years have elapsed? Here was no bad faith, no voluntary acquiescence in the manufacture and sale by others; for the proof shows that when he learned that Mallory was making and selling the same lock and latch, he asserted his prior right, and, in a reasonable time thereafter, applied for the patent. The provision of the law of July 4, 1836, 5 U. S. Stat. at Large, 119, sec. 6, which made public use and sale no impediment to the granting of a patent, and no defense to an infringer, unless it was by the consent and allowance of the inventor, shows that such facts create no estoppel invalidating his patent when granted. Apart from the question of abandonment, the mere fact that, prior to the application for the patent, some one has obtained knowledge of the invention, and placed the thing invented on sale, whether innocently or fraudulently, does not cut off the prior right. True, the patentee

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can not claim damages or profits arising before his patent is granted or applied for ; but he comes to these defendants now as he would to any party who, in ignorance, in fact, of the existence of any patent, had engaged in the manufacture, and says : " From and after the date of my patent you were bound to take notice of my rights. They were claimed, and my claim was of record in the Patent Office. Thenceforward the manufacture of the patented lock and latch was an infringement of my rights. For what you had done before, you are not and can not be pursued, but *then* you were bound to refrain from further manufacture." No equity beyond this can be urged in favor of such prior manufacturer ; and the circumstance that he was also, in fact, an original inventor, and believed himself to be the first inventor, does not affect the question. He is in no better situation than one who ignorantly and innocently supposed that the invention was open to the public. /

These considerations lead us to conclude that the complainants are entitled to the decree prayed for in their bill.

INDEX.

ABANDONMENT.

1. Where the undisputed acts of an inventor furnish evidence of the abandonment of his invention, his testimony upon the trial that he never did intend to abandon it, is entitled to very little consideration. *Brewin v. East Hampton Bell Co.* 23
2. Where an inventor, after the rejection of his application, did nothing to amend or reverse the judgment of the Patent Office for ten years: *Held*, that this delay could not be excused by the plea that as the rejection was wrongfully made, the delay was the fault of the commissioner, and not of the inventor. *Ib.* 23
3. The continuity of two applications for a patent for the same invention is a question of fact, and not of law, and is to be determined by evidence. A technical withdrawal is not necessary to interrupt such continuity. *Ib.* 23
4. Where an inventor filed his application in 1852, which was acted on without delay, and rejected for a simple and intelligible reason, but instead of taking any steps to reverse the action of the office, the applicant withdrew all his papers, including the application itself, except a single drawing, and then, for ten years, permitted his invention to go into notorious public use: *Held*, that the application was abandoned. *Ib.* 23
5. In January, 1852, B. applied for a patent. His application was rejected in April, 1852. He did not appeal or apply for a re-examination. In May, 1852, he took from the Patent Office his application, and all the papers connected with it, except one drawing, but made no formal withdrawal. The papers so withdrawn were never returned. From May, 1852, until April, 1862, he had no communication with the Patent Office, and took no steps toward obtaining a patent. During that interval, his invention went into extensive use, with his knowledge, and without his objection. In April, 1862, he filed a new application for a patent for the invention, and paid a new fee. The new application made no reference to the application of 1852. The fee paid to the Patent Office in 1852 was not withdrawn: *Held*, that the application of 1852 had been abandoned, and that a patent granted in 1869, on the application of 1862, was void, because of the public

Abandonment.

- use of the invention, for nearly ten years before 1862, with the permission of the inventor. *Ib.* 23
6. The continuity of two successive applications for a patent for the same invention is a question of fact, and not of law, and is to be determined by evidence. *Ib.* 23
7. The proof of actual abandonment, after application filed, ought to be indubitably clear. It ought not to rest upon doubtful or disputable inferences. *M'Millin v. Barclay.* 189
8. M. applied for a patent July 23, 1855. After various proceedings, he was finally rejected August 25, 1856, on appeal to the commissioner. He did nothing more until the early part of 1867, when the specification was amended, and the patent was granted April 16, 1867: *Held*, that there was no abandonment of the application between 1856 and 1867. *Ib.* 189
9. The fact of abandonment must result from the intention of the patentee, expressly declared or clearly indicated by his acts. *Johnson v. Fassman.* 471
10. The issue of letters patent by the Patent Office is *prima facie* evidence that there has been no voluntary abandonment of his invention to the public, by the inventor, either before or after his application for letters patent. *Ib.* 471
11. The rule to be deduced from the authorities on the question of abandonment after application is, that, after the issue of letters patent, the abandonment must be shown to be positive, actual, and intentional, by some act or declaration of the inventor, or by such gross *laches* as indicate, unmistakably, an intention to abandon the invention to the public. *Ib.* 471
12. Where nothing was relied upon to defeat complainant's patent but the inventor's delay in prosecuting his application for the patent, his application having been finally rejected by the commissioner April 11, 1857, and not appealed until August 16, 1866, during four years of which time the Patent Office was closed to him, by reason of his residence in a state that was in rebellion: *Held*, that no direct or implied abandonment was shown. *Ib.* 471
14. Where an inventor, whose application was rejected and withdrawn in 1851, delayed to renew it until 1869, and meanwhile—viz., 1859—a patent on substantially the same improvement was granted to another, the existence of which patent became known to the first inventor in 1865: *Held*, that the legal inference from these facts is that he acquiesced in the action of the Patent Office, and abandoned whatever claim he had to the public. *Marsh v. Sayles.* 611
15. It is not material whether the rejection of his claim was right or wrong. Even if wrong, he was obliged, if he insisted on his claim, to take some action on the subject within a reasonable time, either by an appeal from the commissioner, or by a bill in equity in the proper court. *Ib.* 611
16. The simple allegation in a bill in equity, under section 52 of the patent act, that the inventor did not abandon his claim to the public, is not enough to

Accounting—Appearance.

- rebut the presumption to the contrary arising from the above state of facts. *Ib.* 611
17. The first inventor ought to have a patent for his invention, if he seeks to obtain it within a reasonable time and by the methods the law points out. *Ib.* 611
18. The proviso of section 35 of the act of 1870, which provides for the renewal of rejected and withdrawn applications, is subject to the implied condition that the applicant has not lost his right to make the application by abandonment or surrender of the same. *Ib.* 611
19. This proviso was not intended to restore what had been voluntarily given to the public, or what had become the property of the public by the neglect or refusal for a series of years to prosecute what was originally a valid claim. *Ib.* 611
20. Mere lapse of time, before an inventor applies for a patent for his invention, does not, *per se*, constitute an abandonment of the invention to the public. *Russell & Erwin Manufacturing Co. v. Mallory.* 632
21. The question of abandonment, whether in regard to the time prior to two years before the application for the patent, or to the time included in such two years, is a question of fact. *Ib.* 632
- See APPLICATION, 1, 2; EVIDENCE, 2; PATENT OFFICE PRACTICE, 1; PUBLIC USE, 6, 8, 10.

ACCOUNTING.

See DAMAGES.

AGENT.

See ASSIGNMENT, 1.

AGREEMENT.

See LICENSE, 7; ASSIGNMENT, 10, 11.

ANNULLING PATENT.

1. No one but the government, either in its own name or the name of its appropriate officer, or by some form of proceeding which gives official assurance of the sanction of the proper authority, can institute judicial proceedings for the purpose of vacating or rescinding the patent which the government has issued to an individual, except in the cases provided for in section 16 of the act of July 4, 1836. *Mowry v. Whitney.* 494
- See EQUITY, 4.

APPEARANCE.

See PRACTICE, 18, 19.

Application—Assignment.

APPLICATION.

1. An application can disclose nothing to the public, nor give the public notice of any definite intention of the inventor, while that application and the most important papers in which the invention is described, are not in the Patent Office, but are in the inventor's possession. *Bevin v. East Hampton Bell Co.* 23
2. If an inventor has furnished, by his application for a patent, conclusive evidence that he does not intend to abandon his invention to the public, the disproof of this intention ought to be by evidence of equal weight and significance. *M'Millin v. Barclay.* 189
3. A patent relates back to the date of the application; and patents granted to other inventors during the pendency of such application, so far as they cover the same invention, are void, and are no protection to an infringer. *Johann v. Fauman.* 471

See ABANDONMENT, 7, 8, 11, 12, 20, 21; ASSIGNMENT, 7; PATENT OFFICE PRACTICE, 1; PRACTICE, 17, 18, 19; PUBLIC USE, 9, 10.

ARTICLE OF MANUFACTURE.

See CONSTRUCTION OF PATENT, 24; INFRINGEMENT, 2, 4.

ASSIGNEE.

See LICENSE, 1, 2; PARTIES, 1.

ASSIGNMENT.

1. A. and B., general owners of a patent, except for certain counties in Michigan, united with C., the owner of those counties, in appointing D. their attorney and agent, to sell the patented improvements in whole or in part. In a conveyance of a right to manufacture and sell in Chicago, Illinois, the agent signed the names of A. and B., but not of C.: *Held*, that C. had no interest in the territory conveyed, and that it was not necessary that he should join in the grant. *May v. Chaffee.* 160
2. Dudley, at the time he applied, in August, 1866, for a patent for the hand-mirror, also applied, as inventor, for a patent for an "improvement in brushes," with this claim, namely, "A brush, in which the bristles are inserted through a perforated plate or holder, imbedded in a composition or cement of any suitable substance, as described, which cement shall, in combination with a base-piece and stiffener of metal, or other material, form the back and handle of the brush, substantially as specified." Both of the applications were rejected. In December, 1866, he assigned to a corporation, who were the real defendants in this suit, all his inventions "in the manufacture of composition brush-backs and handles, with suitable strengtheners," and all applications for a patent "therefor," and certain apparatus used by him

Assignment.

- "in said manufacture," with all his useful information "for making and selling said composition brush-backs and handles," "meaning hereby to transfer" all his rights "to the manufacture and sale of said composition brush-backs and handles." The applications for both of the patents were pending at that time: *Held*, that the assignment was one only of the invention of the brush, and of the application for the brush patent, and did not carry a right to the invention of the hand-mirror. *Clark v. Scott.* 245
3. Dudley, from August, 1866, until May, 1869, did nothing further toward obtaining a patent for the hand-mirror. The said corporation put into the market, in the fall of 1867, hand-mirrors made in accordance with Dudley's invention. Dudley did not know that fact. His co-patentee, Clark, obtained no interest in the invention until April, 1869: *Held*, that these facts constituted no objection to the validity of the patent. *Ib.* 245
4. Any assignment which does not convey to the assignee the entire and undivided monopoly which the patentee holds in the territory specified or an undivided interest in the entire monopoly, is a mere license. *Sanford v. Messer.* 411
5. The conveyance of an exclusive right to use and vend, the right to make being retained by the grantors, construed to be a mere license. *Ib.* 411
6. It was not the intention of the legislature to permit several monopolies to be made out of one, and divided among different persons in the same limits. *Ib.* 411
7. A contract for the purchase of a *portion* of a patent right may be good as between the parties as a license, and enforced as such in the courts. *Ib.* 411
8. But the legal right in the monopoly remains in the patentee, and he alone can maintain an action against a third party who commits an infringement upon it. *Ib.* 411
9. A patentee having conveyed an undivided interest in the "invention as secured" by letters patent, the same to be held and enjoyed "to the full end of the term for which said letters patent are or may be granted:" *Held*, that this conveyed to the assignee an interest in the extended term. *Thayer v. Wales.* 448
10. An assignment of an interest in an invention secured by letters patent is a contract, and, like all other contracts, is to be construed so as to carry out the intention of the parties to it. *Nicolson Pavement Co. v. Jenkins.* 491
11. There is no artificial rule in construing a contract; and effect, if possible, is to be given to every part of it, in order to ascertain the meaning of the parties to it. *Ib.* 491
12. Where an assignment conveyed a specified territorial interest "in the invention and letters patent," to be enjoyed by the assignee and his legal representatives "to the full end of the term for which the said letters patent are or may be granted:" *Held*, that it was the intention to secure to the assignee

Assignment.

- the right to use the invention in the territory named as long as the inventor or his representatives had the right to use it elsewhere. *Ib.* 491
13. The insolvent law of Massachusetts authorized the judge, "by an instrument under his hand, to assign and convey to the assignee all the estate, real and personal, of the debtor;" * * * and it also provided that such "assignment shall vest in the assignee all the property of the debtor, real and personal, which he could lawfully have sold, assigned, or conveyed, or which might have been taken in execution upon a judgment against him:" *Held*, that the property vests in the assignee, by force of the statute, rather than by virtue of the terms of the assignment. *Ashcroft v. Wakworth.* 528
14. A conveyance by a judge, under this statute, is not such an assignment as is provided for by the act of Congress relating to patents, and is not sufficient to convey the title to the assignee. *Ib.* 528
15. The act of 1836, section 11, clearly contemplates a written instrument, signed by the owner of the patent, and duly recorded in the Patent Office, as necessary to vest the legal title in the purchaser. *Ib.* 528
16. To invest the assignee with the legal title, the court must compel a transfer, in conformity with the requirements of the patent act. *Ib.* 528
17. J. R. B. conveyed to R. A. B., his son, who afterward reconveyed to him, but the second conveyance was not recorded. After the last conveyance, R. A. B. undertook to convey to N., who had knowledge of both of the former assignments, "whatever right, title, or interest he had under the patent to manufacture the thing patented:" *Held*, that N. took nothing by this grant. *Ib.* 528
18. S., a patentee, assigned to R. all his interest in "the invention as secured to him by the patent," for the whole of the United States (reserving to J. the right to use the patent at a particular place, and to sell in particular territory the products of such use), the same to be held and enjoyed by R., for his own use and that of his representatives, "to the full end of the term for which said letters patent are or may be granted," as fully and entirely as the same would have been held and enjoyed by S., had the assignment not been made. This assignment was recorded in the Patent Office. Subsequently, the patent was extended to S., and he afterward assigned to E. all his interest in the extension. E. went on to use the invention, and was sued by R. in equity, for infringement: *Held*, that the right to the extended term passed to R., the first assignee. *Ruggles v. Eddy.* 521
19. The legal effect of the assignment to R. can not be varied by parol evidence not showing mutual mistake. *Ib.* 521
20. The title of R., if regarded as an equitable title, is sufficient to enable him to sue E. in equity, E. having taken title after the assignment to R. was recorded. *Ib.* 521
21. But, *semble*, that R. took the legal title. *Ib.* 521

Administrator—Combination.

22. T., having made an invention, and applied for letters patent for it, on a specification filed in the Patent Office, assigned to H., in 1852, "all the right, title, and interest whatsoever, which I now have, or, by letters patent would be entitled to have and possess in the aforesaid invention, the said invention being described in the specification as prepared and executed by me, or to be prepared and executed by me, for the obtaining of said letters patent, the whole to be held and enjoyed" by H., "to the full extent and manner in which the same would have been, or could be held and enjoyed by me, had this assignment never been made," and authorized the issue of "the said" patent to H., "as the assignee of my whole right and title to the same, and to the new invention aforesaid." A patent was accordingly granted to H., on the invention, in 1852. In 1854, H. assigned to S. all his interest in any extended term of the patent. In 1866 the patent was extended to T.: *Held*, that, by the assignment of 1852, no right to the extended term passed to H., and, consequently, S. had no such right. *Mowry v. Grand Street and Newtown Railroad Co.* 586
- See EXTENSION, 1; GUARDIAN; INFRINGEMENT, 37; LICENSE; LICENSEE; PARTIES, 3.

ADMINISTRATOR.

1. Reissued letters patent may be in the name of the executor or administrator of a deceased patentee. *Carew v. Boston Elastic Fabric Co.* 90

BANKRUPT.

See ASSIGNMENT, 13, 14, 16.

CLAIM.

1. The patentee must stand or fall by the claims as made. *Meissner v. Devoe Manufacturing Co.* 285
2. There may be a claim for two inventions in the same patent if they both relate to the same machine or structure; and an action can be sustained for the infringement of either one of these separate inventions when claimed as separate and distinct in their character. *McComb v. Brodie.* 384
3. Where plaintiff's patent covered three different features of invention, but suit was brought on one claim only, the jury was instructed to consider the case precisely as if the patent covered that claim alone. *Ib.* 384
- See CONSTRUCTION OF PATENT, 9, 12, 22, 23, 24; INFRINGEMENT, 34; PARTICULAR PATENTS, 138, 152.

COMBINATION.

1. If the superiority of a wheel arose from the fact that two devices were combined on it, each of which was intrinsically better than others, and yet each

Composition—Construction of Patents.

- operating independently of the other, the combination would be but the exercise of judgment in the choice of parts, and not invention. *Sarven v. Hall*. 415
2. A patentee can not claim an alternative combination if the separate combinations would not make an operative machine. *Brown v. Whittemore*. 524
- See CONSTRUCTION OF PATENTS, 1, 2, 21, 22, 23, 24; INFRINGEMENT, 2, 3, 4, 5, 6, 7; INVENTION, 5, 8, 18; PARTICULAR PATENTS, 85, 103, 108, 152.

COMPOSITION.

See CONSTRUCTION OF PATENTS, 10, 11, 15, 16; INFRINGEMENT, 23, 27, 28, 29; PARTICULAR PATENTS, 41, 74, 75; REISSUE, 8; SUBSTANTIAL IDENTITY, 1.

CONSTRUCTION OF PATENT.

1. If a device is new in itself, it must be described and claimed as such. A claim for it, in combination with other parts of the machine, can not be so construed as to import the novelty of the device separately considered. *Graham v. Mason*. 1
2. A claim for "the improved lamp, as not only constructed with its cone, a deflector, and its chimney rest, and chimney arranged with respect to each other as described, but as having the said deflector provided with peripheral springs or the same, or the slits and the rest made concavo-convex, and provided with an annular groove or lip at the bottom for supporting the chimney, the whole being substantially as described or represented," held to be for a combination of which the chimney was an essential element. *Wallace & Sons v. Holmes, Booth & Haydens*. 37
3. The words, "substantially as described and shown," in the claim of the patent, held to relate only to material features of the combination specified, to be ascertained by considering the purpose of the machine, and what are the elements of the combination which constitute its distinctive character, and are effective in producing the peculiar result for which the contrivance is made. *Waterbury Brass Co. v. Miller*. 48
4. The rule *ut magis valeat quam pereat* is as applicable to patents as to any other instruments, in regard to which it is the duty of the court to adopt a liberal construction, in order to give effect to the intention of the parties. *Carew v. Boston Elastic Fabric Co.* 90
5. Where doubts arise, it is the duty of the court to collect the intention of the parties from the whole instrument, and, if practicable, to adopt such a construction as will give it effect, and render it available for the purpose for which it was granted. *Id.* 90

Construction of Patent.

6. Ordinarily, the claim of a patentee should be so construed as to secure to him the exclusive right to control the use of his actual invention, if this can be done without violence to the language of his claims; but this general rule would hardly be acted upon in a case where it was evident that his claims had been expressed in loose, ambiguous, or general terms, for the fraudulent purpose of apparently covering subsequent inventions, especially where the objectionable claim had been first introduced in a reissue, for the purpose of covering the subsequent invention of another. *Taylor v. Garretson.* 116
7. Patents are to be construed liberally, so as to sustain and not destroy the right of the inventor. *Francis v. Mellor.* 153
8. Hence, the whole of the specification may and should be looked at, not only to learn from the description of the invention how to make it, but to ascertain what it really is. *Ib.* 153
9. It is not only where the specification is expressly referred to that the claim is to be construed in connection with it, but, as a general rule, the explanations contained in it are to be taken as the inventor's own interpreter of the meaning of his claim. *Ib.* 153
10. Where, in the body of the specification, a composition of matter is described as the product of glue, glycerine, and sugar, united in certain specified proportions, it being added that the proportions may, in some cases, be advantageously varied, but the claim is for "combining glue, glycerine, and sugar, or any other analogous saccharine matter, to form a new and useful composition of matter:" *Held*, that the patent is not broadly for a substance composed of these ingredients, irrespective of the proportions in which they are combined, but for one produced in substantial or approximate accordance with the formulas given in the specification. *Ib.* 153
11. Where only approximate proportions are named in the specification for the several elements of a given composition of matter, the right to vary these proportions is not unlimited. It can only extend to any adjustment which will result in the production of a substance possessing the peculiar properties attributed to the substance described in the patent. *Ib.* 153
12. The general words of the claim are to be construed as limited by any particular description found in the specification. *Knox v. Murtha.* 174
13. Although the specification states that the nature of the improvement which is the subject-matter of the claim, consists in the peculiar manner of fastening the hoops "to the perpendicular straps, by means of a small clamp, the said clamp being made with teeth, or otherwise," yet, taking the drawings and the description together, no one would, from them, use clamps without teeth to fasten the hoops to the perpendicular straps. *Doughty v. Day.* 224
14. In contemplation of law, after a patentee has described his invention and shown its principles, and claimed it in a form which perfectly embodies it, unless he disclaims other forms, he is deemed to claim every form in which his invention may be copied. *Murphy v. Eastham.* 306

Construction of Patent.

15. When the specification of a new composition of matter gives only the names of the substances which are to be mixed together, without stating any relative proportion, it would be the duty of the court to declare the patent to be void. *Jenkins v. Walker*. 347
16. The same rule would apply when it is apparent that proportions are stated ambiguously or vaguely, since no one could use the invention without first ascertaining by experiment the exact proportions of the different ingredients required to produce the intended result. *Ib.* 347
17. Every specification is to be read as if by persons acquainted with the general facts of the mechanical or chemical science involved in the invention; and the specification of the parts is a specification to ordinarily skillful mechanics or chemists of the well-known mechanical or chemical equivalents. *Woodward v. Morrison*. 357
18. When the means, devices, and organization are patented, the patentee is entitled to the exclusive use of this mechanical organization, device, or means, for all the uses and purposes to which it can be applied, without regard to the purposes to which he supposed, originally, it was most applicable. *McComb v. Brodie*. 384
19. Where one swage was described as having a beveled periphery, and the swage with which it operated as having "a corresponding beveled periphery," these terms import that the beveled surfaces were parallel. *Barry v. Gugenheim*. 452
20. The direction that the temperature of all parts of the wheels deposited in the furnace "be raised to the same point (say a little below that at which fusion commences)," merely fixes a maximum and a minimum limit. The heat must not reach the point of fusion, and the prescribed minimum is that degree where the heat of the different parts is equal. Within those limits the degree is left to the judgment of the operator; and the patent is not void for want of utility or insufficient description. *Mowry v. Whitney*. 494
21. Claiming the arrangement of a combination, when the arrangement is such as to produce a given mechanical result of the combination, is not a claim to a function, nor is it a claim to a result, irrespective of the means of producing it; but it is a claim to the means alone, and only when specially arranged to produce a given result. *Renwick v. Pond*. 569
22. A claim for "the combination of a lock and latch, when the latch-bolt and its operative mechanism are arranged in a case or frame, independent of the main case, and constructed so that the latch-bolt may be reversed, substantially as described, without removing the said independent case from the main case," is not open to the objection that it claims merely the combination of a lock and latch, and so claims merely the aggregation of two things which have no relation to each other, in performing their separate functions, and which are not patentable as a combination. *Russell & Erwin Manufacturing Co. v. Mallory*. 632

Construction of Statute—Costs.

23. The claim does not claim, as an invention, the combination of a lock with a latch, but claims a reversible latch, constructed as described, to be used in connection with and inclosed by the lock-case. *Ib.* 632
24. The expression in the claim, "the combination of a lock and latch," is not to be technically construed. The terms used mean the same as "a united lock and latch," or "a lock and latch," when indicating a single article of manufacture or use. *Ib.* 632

See CLAIM; EQUIVALENTS, 2; INFRINGEMENT, 35, 36; INVENTION, 2, 3, 19; MODEL; PLEADING, 8; PARTICULAR PATENTS, 4, 6, 14, 20, 22, 24, 29, 30, 31, 35, 39, 44, 48, 52, 53, 55, 62, 65, 67, 73, 76, 80, 81, 84, 90, 93, 98, 99, 100, 106, 108, 114, 117, 118, 121, 123, 124, 125, 126, 128, 129, 132, 134, 138, 139, 141, 145, 146, 147, 151, 152; PRACTICE, 1; REISSUE, 1, 2, 3, 4, 5, 6, 7, 15; SPECIFICATION, 1, 2.

CONSTRUCTION OF STATUTE.

1. Section 9 of the act of March 3, 1837 (5 U. S. Stat. at Large, 194), is designed to allow a patentee to recover on one claim of his patent, notwithstanding other claims in it are void for the want of novelty, but it requires that the parts claimed without right, and the parts rightfully claimed, shall be definitely distinguished from each other in the claims. *Rumford Chemical Works v. Laner.* 615
- See ABANDONMENT, 18, 19; COSTS, 2; DAMAGE, 2, 3, 4, 23; LICENSE, 2.

COSTS.

1. A defense that the patent was invalid, because of consent and allowance, being sustained, the bill was dismissed, but, under the circumstances, without costs. *Sisson v. Gilbert.* 109
2. The mere fact that the plaintiff has obtained a verdict in an action on the case for the infringement of a patent, is not conclusive that he is entitled to costs; for if the verdict be rendered in pursuance of section 9, act of 1837, for the infringement of valid claims, while other claims are rejected as void for want of novelty, the plaintiff can not recover costs. *Peck v. Frame.* 211
3. Nor does the fact that, since the verdict, the plaintiff has disclaimed one or more of the claims of the patent, deprive him of his right to recover costs. Such a disclaimer might be a ground for a new trial, but so long as the verdict remains in force the plaintiff is entitled to the benefit of it. *Ib.* 211
4. If the disclaimer be of immaterial matters, it would seem that the filing of it does not affect the plaintiff's right to costs. *Ib.* 211

 Damages.

DAMAGES.

1. Prior to the act of July 8, 1870, the complainant in an equity suit could recover only such gains and profits as were made by the respondent. *Carew v. Boston Elastic Fabric Co.* 90
2. Under the act of July 8, 1870, profits are to be accounted for by the respondent; and if it appears that the injuries which the complainant sustained by the infringement are greater than the gains and profits realized by the respondent, then the complainant is entitled to recover compensation for the excess of the injuries sustained, beyond the amount estimated and assessed for the gains and profits received by the respondent. *Id.* 90
3. Actual damages for the injuries sustained by the complainant, beyond the amount estimated and allowed for the gains and profits made by the respondent, must be assessed in the first instance; but the court, in its discretion, may increase the amount so allowed to any sum, according to the circumstances, not exceeding three times the amount assessed as actual damages. *Id.* 90
4. Damages for the infringement of letters patent can be recovered in an equity suit, where the wrongful acts were committed subsequent to the passage of the act of July 8, 1870. *Id.* 90
5. In this case, which was an action at law for the infringement of letters patent, the plaintiff having had, at the trial, a verdict for \$5,000, the court, regarding the conduct of the defendant as peculiarly aggravated, increased the damages to \$7,500, as being a sum sufficient to cover the expenses of the trial, and something more for the time and trouble of the plaintiff. *Id.* 90
6. In an action at law for the infringement of letters patent, the jury found a verdict for the plaintiff for \$700 damages. On a motion by the defendant for a new trial, the court was of opinion that the evidence, tending to prove actual damages sustained by the plaintiff, did not warrant a verdict for a greater amount than \$562.50: *Held*, 1. The plaintiff might be allowed to remit the excess, instead of being required to submit to a new trial. 2. It appearing that the infringement was deliberate and intentional, and the plaintiff asking, under the statute, for an increase of the actual damages found, the court awarded judgment for \$1,200 and costs. 3. The defendant was allowed to require the plaintiff to first remit the amount of the excess of the verdict, or submit to a new trial, the order of the court thereupon to award the plaintiff judgment as aforesaid. *Russell v. Place.* 134
7. It is proper to increase the damages found by the jury to indemnify the plaintiff for the expenses of prosecution, especially where the infringement seems deliberate and intentional, though it may have been done under an erroneous estimate of the plaintiff's rights. *Id.* 134
8. Where the patented invention consisted of a "bridle-motion" attachment for looms: *Held*, that the complainants had no right to any portion of the profits which the defendant made upon the looms to which the infringing mechanism was attached. *Graham v. Mason.* 290

 Damages.

9. Where a patentee is entitled to profits, he is entitled to any profit the infringer has made by the unlicensed use of the contrivance included in the monopoly, and of that alone without regard to profit or loss on the whole structure or machine of which such mechanism forms a part, and without recoupment for losses on other infringing mechanisms made or sold. *Id.* 290
10. Where the infringer has made a profit on one fraction of the mechanisms made and sold, but has met with losses on a larger fraction, so that a correct account of the whole operation would show a loss on the total manufacture; in such case, if the patentee, with a full knowledge of all the facts, should bring his bill declaring specifically for the infringement by the manufacture only of those specified mechanisms, in the making and selling of which the infringer had made profits, he would certainly be entitled to recover the profits thus made. *Id.* 290
11. He is also entitled to such profits on a bill counting generally against the infringer, without offset or deduction for losses made in the manufacture and sale of other infringing mechanisms. *Id.* 290
12. Where the infringer made a part of the mechanism after a pattern of his own, which pattern, however, was an infringement of the patent: *Held*, that the question of profits was not affected by the fact that he could make the infringing contrivance cheaper than he could make the contrivance in the exact form and shape described in the patent. *Id.* 290
13. The rule with regard to the renovation and repair of licensed machines does not apply to cases of infringement. *Id.* 290
14. Where the defendant had sold repairs upon infringing mechanisms previously made and sold by him: *Held*, that he must account for profits on the repairs, as well as upon the original machines. *Id.* 290
15. Where the defendant had given to complainants a valuable consideration, in full satisfaction of their rights, as against the parties who had purchased infringing machines from said defendant, but without prejudice to their rights as against the defendant himself: *Held*, that the amount thus paid was not a legitimate charge against the manufacture, and could not be deducted in accounting for profits. *Id.* 290
16. In a suit in equity for the infringement of a patent for a tremolo attachment to an organ, on taking an account of the profits derived by the defendant from dealing in such attachment, it appeared that the defendant dealt in musical instruments not having such attachment, as well as in those having it. *Held*, that a proper part of the general expenses of conducting the defendant's entire business, such as clerk hire, rent of store, and the like, ought to be assigned to the dealing in such attachments, such part to bear the same proportion to the whole of such general expenses, that the sales of such attachments bore to the sales in the entire business. *Hitchcock v. Tremaine.* 310

 Damages.

17. Such general expenses ought not to be apportioned according to the amount of profits on sales. *Ib.* 310
18. The patented attachment being a revolving fan, not including the apparatus for moving the fan, the profits on such apparatus ought not to be allowed. *Ib.* 310
19. In a suit in equity, for the infringement of letters patent, brought before the passage of the act of July 8, 1870 (16 U. S. Stat. at Large, 206, 216, secs. 55, 111), both profits and damages can not be recovered. *Williams v. Leonard.* 381
20. An interlocutory decree in such a suit, entered after the passage of such act, inadvertently provided for the recovery of both profits and damages. The report of the commissioner reported both profits and damages, and was excepted to by the defendant, on the ground that the damages could not be recovered in the suit: *Held*, that the point could not be raised by an exception to such report, but that, nevertheless, the court would not award any damages, and would resettle the interlocutory decree, so as to exclude them. *Ib.* 381
21. In an accounting for profits, the defendant can not be credited with a sum of money as a salary earned by and paid to himself, while engaged in the business which earned the profits. *Ib.* 381
22. The rule of damages at law is not what the defendant has made, or what he might have made, but it is the loss sustained by the plaintiff by reason of the infringement. *McComb v. Brodie.* 384
23. If plaintiff was ready to supply the market with his patented goods, and his business was hindered or interfered with by the competition of defendant, plaintiff's damage will be the amount of profit which he has lost by reason of such interference. *Ib.* 384
24. If a plaintiff neglects to prove that his patented article was stamped, or that he gave to the infringer the notice required by section 38 of act of July 8, 1870, a jury can not award him more than nominal damages. *Ib.* 384
25. An infringer of a patented process is to account for the additional advantage derived therefrom beyond what he would have had without it; and he is not liable to the extent of his entire profits in the manufacture. *Mowry v. Whitney.* 494
26. In estimating an infringer's profits, the question to be determined is what advantage has he derived from using the patented process over what he had in using other processes then open to the public, and adequate to enable him to obtain an equally beneficial result. *Ib.* 494
27. The profits recoverable against an infringer are really damages, and unliquidated until the decree is made; and upon unliquidated damages interest generally is not allowed. *Ib.* 494
28. Where the defendant's infringement was not wanton, but consisted in the use of a process secured to him by a patent: *Held*, that while this did not

Date of Invention—Equity.

- protect him against responsibility for damages, it ought to relieve him from liability for interest on profits. *Ib.* 494
 See INFRINGEMENT, 37.

DATE OF INVENTION.

1. Where A., in 1860, illustrated his idea of an invention by a pencil sketch, which was laid aside and subsequently lost, and did nothing further with the invention for five years, while B., an independent inventor, took out a patent for the invention in 1862: *Held*, that A. had not "perfected and adapted" the invention in 1860; and that, by reason of his long-continued remissness, he lost any inchoate right he might have had to priority. *Reeves v. Keystone Bridge Co.* 456
 See INVENTION, 21, 22.

DATE OF PATENT.

See REISSUE, 9.

DOUBLE USE.

1. The patenting a material for one purpose does not necessarily invalidate patenting it for another different and not analogous purpose. *Jenkins v. Walker.* 347
 See INVENTION, 14, 15, 16, 17; PARTICULAR PATENTS, 148.

DISCLAIMER.

1. A disclaimer is necessary only where the thing claimed without right is a material and substantial part of the machine invented. *Peck v. Frame.* 211
 See COSTS, 1, 3, 4.

EQUITY.

1. Where prevention of the violation of an inventor's rights is sought, the equity jurisdiction of the court must be invoked, as alone competent to furnish adequate relief. A court of law possesses no such power; its remedies afford redress only for past infringement, but no effectual security against future aggressions. *M'Millin v. Barclay.* 189
2. A trial at law is not a prerequisite to the exercise of the equity jurisdiction of the circuit court. *Ib.* 189
3. There is a broad distinction between the jurisdictional right to take cognizance of a complaint, and a denial of the relief which the complainants ask. Want of equity does not imply a defect of jurisdiction. *Ib.* 189
4. Although in this country the writ of *scire facias* is not in use as a chancery proceeding, the nature of the chancery jurisdiction and its mode of proceeding

 Equivalent—Evidence.

have established it as the appropriate tribunal for the annulling of a grant or patent from the government. *Mowry v. Whitney*. 494

See ANNULING PATENT; ASSIGNMENT, 20; INJUNCTION; PARTIES, 2; PLEADING, 1, 3, 9; PRACTICE, 2, 4, 7, 8.

EQUIVALENT.

1. It is not true that a device is necessarily equivalent to another, merely because it effects the same result. The whole field of invention is cultivated with a view to devise other and new modes of effecting results that are known and common. *Merriam v. Drake*. 259
 2. If there are equivalents, mechanical or chemical, existing, but previously unknown to ordinarily skillful mechanics or chemists, these are not included in the specification of a patent unless specially stated therein. They are new discoveries in themselves, and may be used by all without infringing the patent. *Woodward v. Morris*. 357
- See CONSTRUCTION OF PATENT, 17; INFRINGEMENT, 2, 3, 4, 8, 17, 22, 25, 26.

ESTOPPEL.

1. When, in a former suit between the same parties, the defendant had put in issue the novelty of the invention patented to the plaintiff, by proper plea and notice, but, upon the trial of a second suit, attempted to offer additional evidence upon the same issue, including certain English patents not offered or referred to in the first case: *Held*, that the defendant, in the second action, was estopped, by the judgment in the former case, from denying the novelty of the invention. *Dubois v. Philadelphia, Wilmington and Baltimore R. R.* 208

EVIDENCE.

1. A suggestion in a prior patent would be in itself insufficient to defeat a subsequent patent, without proof that the suggested device was made before the invention of the patentee. *Graham v. Mason*. 1
2. A technical withdrawal of the first application is not necessary to interrupt the continuity between it and a succeeding one. It may be in fact, though not in form, withdrawn. *Bewin v. East Hampton Bell Co.* 23
3. The burden of proof is on the defendants to show the actual prior existence of a head covering answering the description of the complainants' patent. *Baldwin v. Schulz*. 75
4. Where it was sought, for the purpose of superseding complainants' invention, to introduce in evidence a patent not set up in the answer: *Held*, that it would not be admitted. *American Saddle Co. v. Hogg*. 353
5. The presumption, created by the issue of letters patent, that the patentee was the first and original inventor, is greatly strengthened by the extension of the

Experiments—Improvement.

- patent, especially when the extension is resisted on the ground of want of novelty. *Cook v. Ernest.* 396
6. The questions involved in the defense of prior knowledge and use are wholly questions of fact, in respect of which the burden rests upon the defendant to make good the defense by satisfactory proof. *Fisk v. Church.* 540
- See ABANDONMENT, 1, 3, 4, 5, 6, 10, 13, 14, 16, 20, 21; APPLICATION, 2, 3; ASSIGNMENT, 19; ESTOPPEL; INFRINGEMENT, 5, 39; INVENTION, 21, 22; NOVELTY, 1; PRACTICE, 12, 13, 14; PRIOR INVENTION, 1; PRIOR PUBLICATION, 5, 6, 7; PUBLIC USE, 7; REHEARING, 5; REISSUE, 2, 12; RES ADJUDICATA; UTILITY, 2.

EXPERIMENTS.

1. A merely experimental use, made in good faith, and not in such wise as to amount to a fraud upon the public, misleading them into a use, in the belief that it is free, does not destroy the exclusive right of an inventor. *Sisson v. Gilbert.* 109
- See NOVELTY, 2, 3, 11; PARTICULAR PATENTS, 3.

EXTENSION.

1. It is well settled that the title of an inventor to obtain an extension may be the subject of a contract of sale. *Nicolson Pavement Co. v. Jenkins.* 491
- See ASSIGNMENT, 9, 12, 18, 22; EVIDENCE, 5.

FRAUD.

See PATENT OFFICE PRACTICE, 2; PLEADING, 7.

GUARDIAN.

1. Independent of special legislation, it is not doubtful that a guardian of the person and estate of an infant, appointed by the court of probate, has, as incidental to his office and duties, the power to sell personal property of his ward. *Wallace & Sons v. Holmes, Booth & Haydens.* 37
2. The statute of Massachusetts (Gen. Stat. Mass., chap. 109, sec. 22), which provides that probate courts may authorize or require a guardian to sell stock or other personal property, does not operate to deprive the guardian of power to sell personal property without the aid of such courts. *Id.* 37

IMPROVEMENT.

See INFRINGEMENT, 19, 20, 32; INJUNCTION, 10; PARTICULAR PATENTS, 104.

Infringement.

INFRINGEMENT.

1. Infringement depends not so much upon the form of the particular device in question, or upon the name given to it in the specification, as upon the functions it performs. *Graham v. Mann.* 1
2. It is well-settled law that if one device is employed in a similar combination as another, and performs the same function in the same way, the two are substantially the same, although they may be different in form, and may be known among mechanics by different names. *Ib.* 1
3. Where a burner and chimney were claimed in combination, and the defendants manufactured and sold the burner, leaving the purchasers to supply the chimney, without which such burner was useless: *Held*, that they infringed the patent. *Wallace & Sons v. Holmes, Booth & Haydens.* 37
4. Every sale of the burner was a proposal to the purchaser to supply the chimney to be added to it, and every purchase was a consent that it should be done. *Ib.* 37
5. It can not be that when a useful machine is patented as a combination of parts, two or more can engage in its construction and sale, and protect themselves by showing that, though united in an effort to produce the same machine, sell and bring it into extensive use, each makes and sells one part only, which is useless without the other, and still another person, in precise conformity with the purpose in view, puts them together for use. *Ib.* 37
6. In such case, all are *tort feasers*, engaged in a common purpose to infringe the patent, and actually, by their concerted action, producing that result. *Ib.* 37
7. In a certain sense, nearly all new machines are but combinations of old devices; that is to say, they do or may combine frames, bolts, rods, wheels, levers, and other devices, more or less complicated, none of which, regarded singly or separately, are new; and yet, the machine formed by the combination is new, as a structure, in its operation and in the effect produced. The patent, in such case, is not for a mere combination; and another machine, having the like construction, operation, and effect, in all that constitutes the principle of the machine and its efficient means of operation, is an infringement of the patent, notwithstanding it may contain a less number of parts, or other devices be substituted for some of its parts. *Waterbury Brass Co. v. Miller.* 48
8. The plaintiff's machine consisted of an engine lathe, a form, a clamp, and other devices, and an adjustable tool carriage, sustaining and guiding a burnishing or spinning tool in a definite, prescribed path, pressing the tool against the disk of metal operated upon, the tool carriage being moved by a screw connected by a gear-wheel with the power moving the lathe. The defendant's machine was, in substance, in all respects, like the plaintiff's, except that the tool carriage was moved by a rod connected with a cam, acted on by

Infringement.

- a gear-wheel, actuated through a crank by the hand of a workman : *Held*, that this was not an essential difference. *Ib.* 48
9. The mere substitution of a mechanical equivalent or equivalents for one or more of the elements constituting the combinations and organizations thus claimed, or any merely formal or fraudulently evasive change in the parts or arrangement embraced in the claim, will not relieve a party from liability as an infringer. *Taylor v. Garretson.* 116
10. Differences in the method of incasing the soda and sealing the packages do not relieve the defendant from the charge of infringement. *Pennsylvania Salt Mfg. Co. v. Thomas.* 148
11. A defendant who denies access to his machine, and who does not, at the hearing, produce his machine, nor any model or drawing of it, nor the product which it manufactures, nor rely upon the patent under which it is constructed; but who contents himself with attacking the plaintiff's model, denying that it can be a true copy of his machine, and with pointing out certain discrepancies in it, must not expect that doubtful points will be construed favorably to him. *Union Paper Bag Machine Co. v. Binney.* 166
12. A defendant can not relieve himself from the charge of infringement by showing that while he uses substantially the same devices, they operate less perfectly in his machine than in the plaintiff's. *Ib.* 166
13. Increasing the number of teeth, and adding another feature to the clamp, while it still has teeth, which, after passing through the strap, are clinched, and embrace the hoop, is, nevertheless, an infringement of the said second claim. *Doughty v. Day.* 224
14. An article of dress, called a bustle, containing wire hoops, each of which is a skirt-hoop, formed by inclosing, by means of glue or sizing and pressure, two wires within a covering, which not only envelopes and protects the wires, but forms a connection between them, so that, while the wires are confined to their proper places within the covering, the wire hoop or spring has the appearance of being made from a much broader wire than it in reality is, and may be secured to the vertical tape by means of a metallic fastening passing through the vertical tape and the material covering the spring, is, substantially, a hoop-skirt of a diminished size, and the making and selling of such bustles is an infringement of said patent. *Young v. Lippman.* 230
15. Roberts' method of exploding torpedoes in oil-wells is distinguished from all others by the use of a fluid tamping in deep wells of small caliber, the intended effect of which is to give a lateral direction to the force of the explosion. *Roberts v. Roter.* 295
16. It is not the use of water distinctively, but water as a fluid merely, that is contemplated by the patentee. *Ib.* 295
17. Benzine, or any other substance possessing the fluid property of water, is within the scope of the patent, and is a manifest equivalent. *Ib.* 295

Infringement.

18. If the desired effect can be produced by the use of a shorter column of fluid than the patentee describes, it is still an infringement of his patent. *Ib.* 295
19. Where the patent claimed "a carpet-lining, composed of soft sheet fibrous material, surfaced or protected, not only on its opposite sides, but also around its opposite edges," as security against dust and moths, the described method of forming it being to leave the fibrous lap narrower than the surfacing sheets, and then to unite the overlapping edges of these sheets by paste or cement: *Held*, that a lining formed by inclosing the fibrous lap in a single wide sheet of paper, the edges of which overlap along the center of the fibrous material, being likewise secured to each other and to the filling by stitching, constitutes an infringement. *Fales v. Wentworth.* 302
20. It is a familiar rule of law that a patent upon an improvement does not, *per se*, give the right to use the thing improved upon. *Ib.* 302
21. In order to make his patent available, the patentee of an improvement upon a patented article must have the consent of the original patentee, where he can not use his improvement without using the patented thing improved upon. *Ib.* 302
22. Where the patentee claimed a brush-head provided with an *angular* groove or furrow, and having an India-rubber ring fitted therein as a protection to glass and other substances to be washed or dusted: *Held*, that the rubber would accomplish the same result in the same manner and by the same means, whether its shape be *circular* or *angular*, whether a cross-section of the band be a parallelogram, a rhombus, or—what a circle practically is—a many-sided polygon, and whether the shape of the groove be semicircular or polygonal or triangular. *Murphy v. Eastham.* 306
23. A composition, consisting of rubber, gum-shellac, Paris white, French chalk, litharge, lamp-black, and sulphur, is infringed by one consisting of rubber, plumbago, copper and zinc, lead and sulphur. *Jenkins v. Walker.* 347
24. *Seemle*, that where the patented invention is an entirely new article of manufacture, it might be sufficient to find that the defendant makes substantially the same thing, whether by the same or a different process. *Woodward v. Morrison.* 357
25. Patents are infringed by the substitution of chemical equivalents as well as of mechanical equivalents. *Ib.* 357
26. The use of chemical equivalents may infringe a patent, even if in some respects they are improvements on the original process patented. *Ib.* 357
27. To constitute an infringement of a chemical process, it is not necessary that the substituted ingredient be the equivalent in every respect and for every purpose of that in place of which it is used; it must only be an equivalent in the particular process, contributing to produce the same composition of matter by substantially the same chemical action. *Ib.* 357

Infringement.

28. A paste consisting of flour, salt, alum, and corrosive sublimate, is infringed by a compound consisting of flour, chloride of zinc, alum, corrosive sublimate, and oil of cloves. *Ib.* 357
29. Where the patentee of an improved paste used the chloride of sodium mainly for increasing the solubility of the antiseptic agent employed and assisting in its diffusion through the mass of the paste : *Held*, that the use of the chloride of zinc, which in the particular process produced practically the same result, was an infringement. *Ib.* 357
30. The defendant's apparatus held to be an infringement of the plaintiff's patent, where its mechanical construction was the same in all that constituted the principle or mode of operation of the plaintiff's apparatus, and gave it efficiency in securing the object of the invention. *Buerk v. Valentine.* 366
31. To constitute infringement, the contrivances must be substantially identical, and that is substantial identity which comprehends the application of the principle of the invention. *McComb v. Brodie.* 384
32. If a party adopts a different mode of carrying the same principle into effect, and the principle admits of different forms, there is an identity of principle, though not of mode; and it makes no difference what additions to, or modification of, a patentee's invention a defendant may have made : if he has taken what belongs to the patentee, he has infringed, although, with his improvement, the original machine or device may be much more useful. *Ib.* 384
33. All modes, however changed in form, but which act on the same principle, and effect the same end, are within the patent; otherwise, a patent might be avoided by any one who possessed ordinary mechanical skill. *Ib.* 384
34. It is competent for a party to sue for an infringement of any one of the separate and distinct inventions that may be covered by his patent. *Cook v. Ernst.* 396
35. Where the form of the lower chords in truss-bridges constituted the essence of the claim of the patent, the bars being therein described as "*wide and thin*," and defendant had only made bars *round* in section : *Held*, that complainant was not entitled to recover. *Keystone Bridge Co. v. Phoenix Iron Co.* 468
36. The claim of the patent being for "*the use*," in truss-bridges, of chord-bars constructed in the manner described, the method of making the same being disclaimed, and it appearing that the defendant had only *made* and *sold* chord-bars : *Held*, that they only did what they had a legal right to do, and did not thereby assume any responsibility for the wrongful acts of others. *Ib.* 468
37. A cotton-bale tie, in which the lower edges of the transverse slots are provided with lips or flanges projecting downward at an angle with the plane of the buckle, to prevent the end of the band from slipping, held to be infringed by a tie in which the slots are provided with toothed or serrated edges for the same purpose. *Johansen v. Fassman.* 471

Infringement.

38. W., the patentee of a machine for quarrying stone, assigned his patent to C. Before that, W. had made a written agreement with S., transferring to S. and his assigns "the right to use the patented invention, to the extent of one machine," in the quarry of S., "and in no other place," to the full end of the term of the patent; and further agreeing that S. should have the privilege of using additional machines in such quarry, and not elsewhere, on making certain specified gross payments to W. The agreement further provided that W. should superintend the construction of at least one machine, and be compensated therefor by S. for days' labor, S. to pay for constructing the machine. One machine was built, and paid for by S., and put to work in the quarry of S. S. used it for a time and then ceased, for more than two years, to use it; but, during the interval, repaired it. During the same interval, it was used by R., in a different quarry, with the knowledge of S. Afterward, S. put into use, in his quarry, five machines got up by one L. C. notified S. that the machines of L. infringed the patent of W. S. had taken from L. an agreement by L. to defend the machines of L. against claims under the patent of W. S., after this suit was brought, tendered to C. and to W. money, as and for the payment for the right to use five additional machines, under the agreement with W.: *Held*, 1. That S. acquired, by the agreement with W., the right to manufacture, as well as the right to use, the machines mentioned in it, subject to its conditions. 2. That S. acquired the right to repair and rebuild the one machine, so as to have and keep in use one machine in his quarry during the life of the patent. 3. That S. was liable for the profits from the use of the one machine by R., and for the damages thereby sustained by C. 4. That S. did not forfeit his rights in respect to the one machine, by allowing it to be used by R. in another quarry. 5. That S. was a naked infringer in using the five machines of L., and could not defeat the right of C. to recover in this suit, in respect of such use, by the tender above mentioned. 6. That S. had abandoned and forfeited all right, under the agreement with W., in respect of any additional machines, beyond the one machine. 7. That S. must be enjoined from using any but the one machine first put into use, and be decreed to pay all profits made by him by the use of the five machines, or by the use of the one machine by R., and all damages sustained by C. from both of such users. *Steam Cutter Co. v. Sheldon*. 477
39. Although the patent described the invention as applied to a cartridge, the flange of which radiates inwardly toward the longitudinal axis of the cartridge, and describes the hook as a rigid hook, and the flange as springing, to engage with the hook, yet an arm in which a cartridge is used, the flange of which radiates outwardly from the longitudinal axis of the cartridge, and is rigid, and in which the hook springs, to engage with the flange, infringes such patent, providing such arm has a breech-closing piece moving longitudinally with the barrel, a cartridge-chamber at the butt of the barrel, and a reciprocating extracting hook, arranged in such manner that, when the breech is closed by the forward movement of the closing piece, the bill of

Injunction.

- the hook is within the periphery of such chamber, and, being in its most forward position, is in advance of the rear of the space in which the cartridge is received, so as to engage with the unexpanded front side of the flange of the cartridge, and only one side of the flange is engaged with the bill of the hook, avoiding any difficulty in disengaging the cartridge. *Renwick v. Pond.* 569
40. In order to infringe the patent, it is not necessary to use a cartridge, if an arm be sold, capable of being and designed to be used to effect the result of the patent, by the means specified in its claims, and requiring only the addition of the cartridge by the purchaser. *Ib.* 569
41. Two chemical processes held to be the same, although the proportions of the ingredients used in the two were not the same. *Ramford Chemical Works v. Lauer.* 615
42. The product of the two processes held to be the same. *Ib.* 615
- See CLAIM, 2; CONSTRUCTION OF PATENT, 11, 14; DAMAGES, 4; EQUIVALENTS, 1, 2; INVENTION, 4; LICENSE, 1, 3, 4; MODEL; PARTICULAR PATENTS, 8, 15, 21, 26, 64, 65, 68, 70, 71, 72, 74, 75, 83, 87, 100, 102, 104, 112, 119, 131, 140, 143, 152; PATENT OFFICE PRACTICE, 2; PLEADING, 5, 6; SUBSTANTIAL IDENTITY.

INJUNCTION.

1. In applications for provisional injunctions, the law makes the judge's discretion the rule, not unheeded that, in the qualities of mind which give character to an exercise of discretion, individuals differ scarcely less than in form and features. The judge is bound to decide a question of this kind as, in his judgment upon the particular case before him, the principles of equity and the practice of its courts warrant or dictate. For precedents in any recognized sense of the word, it is idle to search. *Earle Cloet Co. v. Fenner.* 15
2. The patent having been reissued just before the beginning of the suit, no exclusive possession of the invention for any considerable time, accompanied by acquiescence by the public, nor any verdict, judgment, decree, or judicial order recognizing the validity of the claim having been shown, nor irreparable injury to the complainant having been averred, a provisional injunction was refused. *Ib.* 15
3. A preliminary injunction granted against a clear infringement, there having been repeated adjudications sustaining the patent. *Thayer v. Wales.* 130
4. A preliminary injunction in patent cases ought not to be granted where there are new and difficult questions to be decided, or where there is anything in the position or relations of the parties which would cause it to operate unjustly. *Union Paper Bag Machine Co. v. Binney.* 166
5. A delay of three months in filing a bill, after the infringement was ascertained, is no ground for refusing an injunction. *Ib.* 166

Invention.

6. The fact that the plaintiff is infringing the defendant's patent, by using the defendant's apparatus to make skirt-hoops, is no ground for refusing an injunction against the defendant, restraining him from infringing the plaintiff's patent. *Young v. Lippman*. 230
7. A provisional injunction was dissolved, on evidence showing the prior existence, in the United States, of the skirt-wire of the patent, specimens of the thing known before being produced. *Ib.* 230
8. Strong doubts being entertained as to the validity of a patent, a preliminary injunction was refused. *Fales v. Wentworth*. 302
9. The novelty of the invention not having been disproved by the facts set up by the defense, and it appearing that there was an actual infringement, and that complainant had been in exclusive possession under the patent for a long time, with the acquiescence of the public: *Held*, that a provisional injunction should be granted. *Miller v. Andreuoggin Pulp Co.* 340
10. The fact that defendant has taken out patents for other improvements relating to the same subject is no reason why he should not be enjoined from infringing upon the improvement covered by complainant's patent. *Cook v. Ernest*. 396
11. The writ of injunction issues on the principle of a clear and certain right to the enjoyment of the subject in question, and an injurious interruption of that right, which, on just and equitable grounds, ought to be prevented. *Ib.* 396
12. Where complainants produced their patent; proved an uninterrupted use of the invention, without infringement, for eleven years; had established their patent by an action at law, in which every defense known to the law might have been set up; and had obtained an extension of the patent in the face of vigilant and interested opposition, a preliminary injunction was granted. *Ib.* 396
13. The question of withholding an injunction, if the defendant will take a license, considered. *Baldwin v. Bernard*. 442
14. A particular construction of a claim not having been maintained in any judicial decision, or acquiesced in by the public, and its novelty, on such construction, being shown to be doubtful, an application for a provisional injunction against an arrangement which was no infringement except on such construction, was refused. *Mowry v. Grand Street and Newtown Railroad Co.* 586

See INFRINGEMENT, 11, 38; PRACTICE, 5, 6, 7, 9, 10.

INVENTION.

1. Where no patent is granted, the invention, however novel, ingenious, or useful, may be used by any one; and where a patent is granted, the patentee must stand by his patent. He gains no exclusive right, except for such a

Invention.

- machine as his patent describes and secures, though it may be far less broad or comprehensive than his actual invention. *Waterbury Brass Co. v. Miller.* 48
2. A patent may be good for a product, although no patent has been obtained for the machine or process by which it is produced; and so, also, a patent may be good for a product, although the inventor has received a patent for the machine or process. *Ib.* 48
3. Where the specification of a patent for a product fully describes the machine and the process by which the product is produced, such patent may be good, even though the same specification, annexed to a patent for the machine, may not fully secure the patentee against the use of his actual invention, because of a defect in the claim of the latter patent. *Ib.* 48
4. Stainthorp having described a piston with a form adapted to a tip-mold, it required no invention to alter the form of the piston to a plane surface, nor did any change in the principle of the machine follow such alteration. *Thayer v. Wales.* 130
5. If known elements are combined in new proportions, and the result is a product possessing distinct properties and applicable to distinct uses, this must be regarded as a patentable subject. *Francis v. Mellor.* 153
6. The securing the fabric, in making hoop-skirts, by gluing it, or using other equivalent adhesive substance, in contradistinction to securing the fabric, to form the inclosure, by weaving around the wires, or weaving pockets, in which to insert the wires, being cheaper, and an improvement in the trade, and useful, is, if new, patentable, the resulting fabric being a different article from one formed by weaving. *Young v. Lippman.* 230
7. The invention claimed was a small cylindrical box, perforated at the end with holes, and having the perforations closed by wax, or wafer, or paper pasted on, to retain the contents while the box is being transported, the wax or wafer being removed, or the paper punctured, when it is desired to permit the contents to pass through the holes. *Sawyer v. Bixby.* 283
8. The cylindrical box, perforated at one end for the distribution of powder, is old. The closing of packages with wax, wafer, or pasted paper is also old. Each of these devices produce their obvious, well-known result; and, in combination, each produces no other effect than each produces separately. This is not a legitimate combination. *Ib.* 283
9. Everything in such invention, both in means and result, was old. *Ib.* 283
10. Where an instrument for "cutting tongues and grooves, mortices, etc.," was set up as invalidating a patent for a saw in some respects similarly constructed: *Held*, that if what the former instrument actually did, was in its nature the same as sawing, and its structure and action suggested to the mind of an ordinarily skillful mechanic this double use to which it could be adapted without material change, then such adaptation to the new use was not a new invention, and was not patentable. *Tucker v. Spaulding.* 297

Invention.

11. The law gives no monopoly to industry, to wise judgment, or to mere mechanical skill in the use of known means, nor to the product of either, if it be not new. It is invention of what is new, and not comparative superiority or greater excellence in what was before known, which the law protects as exclusive property; and it is that alone which is secured by patent. *Smith v. Elliott.* 315
12. There are many changes which may be suggested by the judgment or taste of the manufacturer, or by the particular uses to which the article produced is to be applied, which are not invention; and many exhibitions of superior skill in producing an article of greater excellence, which are not invention. *Id.* 315
13. If a fabric be already known and in use, change of color, change of mere material, or change in its degree of fineness—if these changes involve nothing new in construction, nor in the relations of its parts, nor in the office or function of either part—does not constitute invention. *Id.* 315
14. The fabric, not being new, its application to a new use was not invention. *Id.* 315
15. The principle involved in the application of a hard-rubber compound for the purpose of diminishing the effect of attrition, is essentially different from that involved in the use of a crude, burnt, refractory rubber compound, to resist the solvent action of steam or hot and corrosive fluids. *Jenkins v. Walker.* 347
16. If it should appear that a bearing surface of vulcanized rubber had been applied to a horse-collar to prevent the absorption of the perspiration and the formation of wrinkles, and to assist in the curing of skin-galls, it would be difficult to decide that there would be anything new and material, either in principle, in combination, or in the mode of operation, in order to adapt a bearing surface of the same material to its new and analogous use as a part of a harness saddle-pad. *American Saddle Co. v. Hogg.* 353
17. A man can not have two patents for the same process, because for different purposes. *McComb v. Brodie.* 384
18. A mere aggregation of parts, whereof the patentee has not the exclusive right to either, and in which the parts have no new operation, and produce no result which is due to the combination itself, is not patentable. *Sarven v. Hall.* 415
19. If the essential parts or features of a machine are such as the experience of a mechanic, skilled in the art, would devise or apply in the operation of the machine, a patentee can have no exclusive right to their employment. *Berry v. Gugenheim.* 452
20. Where the seam between the body and the cover of a metallic can had been closed by compression between revolving awages, so adjusted that their beveled faces were parallel to each other: *Held*, that a change in the adjustment which destroys the parallelism of these faces, for the purpose of producing a wider and smoother seam, belongs to the category of mechanical skill. *Id.* 452

Jurisdiction—License.

21. A patentee, whose patent is assailed upon the ground of want of novelty, may show by sketches and drawings the date of his inceptive invention; and, if he has exercised reasonable diligence in "perfecting and adapting" it, and in applying for his patent, its protection will be carried back to such date. *Reeves v. Keystone Bridge Co.* 456
22. Illustrative drawings of conceived ideas do not constitute an invention; and unless they are followed up by a seasonable observance of the requirements of the patent laws, they can have no effect upon a subsequently granted patent to another. *Ib.* 456
23. A claim for introducing water into the pan of a stone-crushing machine to aid in disintegrating the rock and to cleanse and discharge the pulverized sand, the auxiliary and dependent relations of the water to the mechanism and its co-operative agency being fully set forth in the specification, embodies a patentable subject-matter. *Smith v. Fraser.* 543
24. Where the gate in a machine for crushing and cleansing gold ores had been placed in the side of the pan, above the bottom, with a view to discharging the water and lighter impurities, but retaining the gold: *Held*, that if it were desired to discharge the entire contents of the pan, this could so obviously be effected by extending the aperture to the bottom that the change would fall far below the rank of an invention. To conceive and make it would require but a small amount of mechanical knowledge. *Ib.* 543
25. A monopoly of the use of a well-known substance, in a particular but well-known form, can not be secured. *Tarr v. Webb.* 593
26. It required experiment and invention to find out whether phosphoric acid could be used in place of tartaric acid practically and successfully. *Rumford Chemical Works v. Lauer.* 615

See COMBINATION, 1, 2; CONSTRUCTION OF PATENT, 14; DATE OF INVENTION, 1; DOUBLE USE, 1; NOVELTY, 5, 7, 11; PARTICULAR PATENTS, 1, 2, 11, 21, 31, 43, 49, 51, 55, 56, 58, 60, 82, 105, 122, 134; PRIOR PUBLICATION, 1; REISSUE, 14; UTILITY.

JURISDICTION.

See EQUITY, 1, 2, 3; PRACTICE, 7, 8.

LACHES.

See INJUNCTION, 5.

LICENSE.

1. A., the patentee, assigned to plaintiff all his right to and interest in a patented brick machine, except the right to manufacture said machines in the counties of Philadelphia, Pa., and Camden, N. J. The plaintiff licensed B.

License.

to use one of said machines within a portion of the city of Philadelphia. B. sold the machine to C., who removed it to another part of the city, beyond the district described in the license, and commenced the manufacture of bricks: *Held*, that this was an infringement of the patent. *Chambers v. Smith.*

12

2. The act of Congress makes no provision for the recording of a mere license, and therefore it is not required. If recorded, it would not affect the rights of any one. *Ib.*

12

3. The owners of a patent granted to F. and G. the sole and exclusive right to manufacture and sell the patented machines in Chicago, Illinois. F. and G. sold a machine to the defendants, residing in Faribault, Minnesota, who took it to said Faribault, and used it there. Complainants acquired, by proper conveyances, the exclusive right to use, and sell to others to use, the patented machine, within said Faribault: *Held*, that the defendant had a right to use the machine without liability to the complainants. *May v. Chaffee.*

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4. In the construction of such a grant, it is proper to consider parol testimony to the effect that the right to use the machines in Chicago alone was of no value, as tending to show the intention of the grant to F. & G. *Ib.*

160

5. K., the inventor, in April, 1863, after making the invention, agreed in writing with F., to assign to F. an undivided one-half interest under the patent when it should be issued, in and to certain specified territory, on condition that F. should perform all the covenants on his part in the agreement, which were numerous, and concerned principally the making and selling of mattresses. Among them were, however, covenants that F. should pay "all necessary expenses of procuring a patent" for the invention, advancing the same as it should be required, \$30 of it to be advanced before May 30, 1863, and that F. should "be at the risk of all the expenses arising in the prosecution of the case for a patent" on the invention. In June, 1864, when the application for the patent was ready to be filed, F., at the request of K., paid to K. \$15, as the fee to be paid at the Patent Office on filing the application. It was filed. Subsequently, K. notified F. of his (F.'s) failure to perform many of his covenants, and demanded a compliance with all of them. Two days after the patent was granted, K. notified F. that all his rights under the agreement were forfeited, and that he must not make any mattresses under the patent. The parties then met, and K. renewed the notice, and F., with a view to a settlement of his pecuniary transactions with K., under the agreement, presented to K. a bill, which contained, as a debit against K., the said item of \$15, as "advanced on patent:" *Held*, that this was an abandonment by F. to K., with the acquiescence of K., of all rights to F., under the agreement, to an interest in the patent. *Kittle v. Frou.*

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See ASSIGNMENT, 1, 4, 5, 6, 7, 8.

Licensee—Novelty.

LICENSEE.

1. In the absence of any statutory provision, there is no principle of equity which requires the owner of a patented invention to give notice to a voluntary purchaser of a licensee's right, in order to enable him to hold such purchaser to the restricted use and enjoyment of the invention stipulated in the license. *Chambers v. Smith.* 12
2. It is the duty of the purchaser to inform himself of the nature of the licensee's ownership, and the extent of his right; if he fails to do this, he can not complain that the patentee has misled him, or set up his own remissness to secure to himself a larger interest than was granted to his predecessor in the ownership. *Id.* 12

MACHINE.

See INFRINGEMENT, 7, 8; PARTICULAR PATENTS, 152.

MODEL.

1. It is not sufficient that the parts or features of a machine which are essential to the production of the proposed result be shown in the Patent Office model. If the inventor desires to appropriate them, he must so inform the public by his specification; and if they are not so described, whether they relate to the construction or the mere adjustment of the machine, their use by others is not unlawful. *Barry v. Gugenheim.* 452

NOVELTY.

1. Where a suggestion in a prior patent was claimed to embrace the patented invention: *Held*, that such suggestion must not be ambiguous. *Graham v. Mason.* 1
2. Things relied upon to defeat a patent on the ground of prior invention, but which were never put upon the market, never came into practical use, were never sold, and were not thought worthy of preservation, held to be experimental. *Murphy v. Eastham.* 306
3. Experiments never made public or brought to the knowledge of a subsequent inventor, and ultimately abandoned and lost, can be no obstacle to such inventor's right to take out a patent. *Id.* 306
4. A bottle-stopper fastener, formed of wire, and bent into a U-shape at the part where it passes over the cork, so as to embrace the plunger of the bottling machine, and thus permit the bale to be swung up over the cork before the plunger is withdrawn, is not anticipated by those fasteners which have no provision for receiving the plunger of a bottling-machine. *Putnam v. Hickey.* 334

Particular Patents.

5. A paste in which corrosive sublimate is used in proper quantity, to prevent decomposition, without making the compound poisonous and unsafe to handle, is not anticipated by a paste in which the same ingredient is purposely used in such quantity as to make the compound poisonous and destructive of animal life. *Woodward v. Morrison.* 357
6. Making a prior device, which will serve the like useful purpose, is not necessarily anticipating an invention. Where the mechanical means employed are different, and the mechanical result is different, one does not anticipate the other. *Buerk v. Valentine.* 366
7. An improvement, by which ordinary sewing-machines could be adapted to the sewing of sweat-linings in hats, and of which such machines were an essential element, is not anticipated by complicated and expensive sewing-machines specially adapted to the sewing of sweat-linings, but not capable of use as ordinary sewing-machines. *Sanford v. Messer.* 411
8. In a race of diligence between rival inventors, the one who first perfects an invention and embodies it in a distinct form is entitled to a priority. *Reeves v. Keystone Bridge Co.* 456
9. He is entitled to priority of right to a patent who first reduces his invention to a fixed, positive form, adapted to practical use. *Id.* 456
10. Reasonable diligence in "perfecting and adapting" an invention is essential to the efficacy of a claim against the patent of an independent though subsequent inventor. *Id.* 456
11. However suggestive the experiments of others may have been in the electro-deposition of nickel from different solutions, or in the mere casting of nickel, they can not be made available to defeat a patent granted to one who, after all the experimenters had failed to secure a practical and successful result, beneficial to the community, and a valuable contribution to the useful arts, first succeeded so as to be able to disclose to the public a practically useful and successful process, by him first brought to perfection and first made capable of useful application. *United Nickel Co. v. Auths.* 517

See APPLICATION, 3; CONSTRUCTION OF STATUTE, 1; DATE OF INVENTION, 1; ESTOPPEL; EVIDENCE, 1, 3; INVENTION, 8, 9, 10, 16, 20, 21, 24; PARTICULAR PATENTS, 3, 7, 15, 16, 17, 18, 19, 21, 23, 30, 36, 42, 63, 77, 78, 79, 91, 94, 111, 115, 116, 122, 135, 137; PLEADING, 1, 2, 4; PRACTICE, 12; PRIOR INVENTION; PRIOR PUBLICATION; REHEARING, 1; REISSUE, 12.

PARTICULAR PATENTS.

ADAMS—NICKEL PLATING.

1. Prior to the discoveries of Adams, the electro-deposition of nickel by means of such solutions as are described in the complainant's patent, prepared and used in the described manner, so as to be free from foreign substances and

Particular Patents.

acid or alkaline reactions, which would interfere with the uniform, continuous, and coherent deposition of the metal, was unknown in any practical application of it to the useful art of electroplating of metals with nickel.
United Nickel Co. v. Aubert.

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2. The use of such an anode as is described in Adams' patent, cast from commercial nickel in the desired form, and combined with carbon, and a metal or metalloid electro-negative to the solution employed, was first successfully and practically made by Adams. *Ib.* 517
3. Such an anode is not anticipated by a prior experiment, the result of which was an anode composed of a carbide of nickel; such result, however, being one apparently not designed, appreciated, or discovered by the experimenter. *Ib.* 517

BARNES—CORSET-CLASPS.

4. The invention described in reissued letters patent for "improvement in corset-springs," granted to Frances L. Barnes, executrix of, etc., of Samuel H. Barnes, deceased, August 31, 1869, is the arrangement in a pair, combined by clasps, on a corset, of two springs, each spring consisting of two metallic plates, placed one upon another, and fastened together at their centers, but so connected, at or near each end, that they can play or move upon each other in the direction of their length, and be prevented from sliding off each other laterally. *Barnes v. Straus.* 531
5. Such arrangement did not exist before the invention of Barnes. *Ib.* 531
6. The claims of such reissued patent are valid, and claim, under the expression, "a pair or set of corset-springs," two corset-springs connected by clasps, each spring being constructed as above mentioned. *Ib.* 531
7. The invention held not to have been anticipated by a carriage spring which existed before, or by a single corset-spring, composed of two plates, with provision for play, but with no means for combining it with a second spring. *Ib.* 531
8. The combination, consisting of the two springs connected by the clasps, exists, *pro tanto*, so as to be an infringement, when the springs and clasps are made, ready to be inserted in a corset. *Ib.* 531

BARRY—TIN CANS.

9. Letters patent for an "improvement in machines for making tin cans," re-issued to Christian Barry, October 6, 1868, are void for want of novelty. *Barry v. Gugenheim.* 452

BLAIR—PENCIL-HEADS.

10. The letters patent for a rubber-head for lead-pencils, granted to J. B. Blair, July 23, 1867, the claim of which is, "An elastic, erasive pencil-head, made substantially in manner as described," are void. *Rubber-tip Pencil Co. v. Howard.* 377

Particular Patents.

11. The claim is one to a piece of India-rubber with a hole in it, and is invalid for want of invention. *Ib.* 377

BUERK—BURK—TIME-DETECTORS.

12. The reissued letters patent for an "improvement in watchman's time-detectors," granted to Jacob E. Buerk, as assignee of John Burk, the inventor, March 8, 1870, for fourteen years from October 29, 1856, the original patent having been granted to Buerk, January 1, 1861, for fourteen years from that day, and reissued to him August 22, 1865, for the residue of such last-named term, are valid. *Buerk v. Valentine.* 366
13. Whether the letters patent granted to Jacob E. Buerk, as inventor, June 6, 1865, for an improvement on the time-detector described in the said patent of 1856, are valid, *quære.* *Ib.* 366

COOK—COTTON-TIE.

14. The third claim of letters patent for cotton-bale tie, granted Frederic Cook, March 2, 1858, construed to be for the right to use an open slot cut in a buckle, which, without the cut, would be a closed buckle, so as to allow the end of the tie or hoop to be slipped sidewise underneath the bar through which the slot is cut. *McComb v. Brodie.* 384
15. If a party uses the open slot for passing the end of a cotton-tie sidewise under the slotted bar, it makes no difference whether such end is in the form of a loop or not, if the result attained is, that the end of the tie has been "slipped sidewise through the slot underneath the bar, so as to effect the fastening with greater rapidity than by passing the tie through endwise." *Ib.* 384
16. The open slot in the metallic cotton-bale tie patented to Frederic Cook, March 2, 1858, was not anticipated by an elongated open ring, such as is used for fastening parts of chains together. No use to which the latter could naturally be applied would suggest the open slot in a rectangular flat buckle for the introduction of a flat band sidewise. *Cook v. Ernest.* 396
17. Said invention was not anticipated by the English patent to George Hall, No. 2561, A. D. 1801. *Ib.* 396
18. The buckle described in the English provisional specification of Pilliner, A. D. 1856, was not described in such terms that the public could construct and put it to the use designed by Cook without further invention. *Ib.* 396

DAY—TELEGRAPH.

19. The second claim of the reissued letters patent for an "improvement in electro-magnetic telegraph," granted to Samuel F. Day, March 23, 1869, namely, "The arrangement of the sounding-box, C, the lever, D, and the sounding-post, G, of a magnetic telegraph, in combination with each other, in the manner hereinbefore described, and to the effect stated," is void for want of novelty. *Day v. Bankers and Brokers' Telegraph Co.* 268

Particular Patents.

20. The combination covered by such second claim is one which is capable of being used either in a local current, or in a main-line current, and is not claimed merely when used where a local battery is dispensed with. *Id.* 268
21. The use of such combination in a local current would be an infringement of the claim; and the prior use of the arrangement in a local current is an answer to the claim. *Id.* 268
22. The combination claimed is the arrangement of the sounding-box, lever, and sounding-post, relatively to each other, so that the blow of the armature will be struck directly toward the box, so as to produce a vibration of the box, and consequent sound, by direct action, and so that the sound produced by the blow will be more audible than if the blow were not struck at all in connection with a box or hollow base, but were struck in connection with a solid base, or were struck in connection with a box or hollow base, but not directly toward it. *Id.* 268
23. Such an arrangement existed previously, though in a small instrument, used only in a local current, the box and the magnet being small, and the sound feeble; but the absolute parts, and their relative arrangement, and their action, and their effect, remaining the same, it required no invention to make the box larger, to produce more sound, so as to use it in a longer circuit, with a larger and heavier magnet. *Id.* 268

DE FOREST & GILBERT—LOFT—SKIRT-HOOPS.

24. The claim of the letters patent for an "improvement in springs for hoop-skirts," granted to Thomas B. De Forest and Thomas S. Gilbert, February 18, 1868, namely, "A skirt-hoop, formed by inclosing one or more wires within a covering, which not only envelopes and protects the wire, but forms an edge, A, or connection, B, substantially as and for the purposes specified," is a claim to such a skirt-hoop as is described as an article of manufacture—a skirt-hoop capable of use in making what is known as a hoop-skirt. *Young v. Lippman.* 230
25. The invention in the patent is limited to a skirt-wire made by folding the fabric over one or more wires, and securing it by sizing or glue and pressure, so as to thus inclose the wire or wires in a covering, and leave an edge of the fabric on the one wire, or a connection, formed by the fabric, between the two wires, so as to admit of attaching the skirt-wire to vertical tapes, in making a hoop-skirt. *Id.* 230
26. The ownership of a right to manufacture covered wire for springs for skirts, under a patent granted to John T. Loft, March 13, 1860, for an "improved machine for covering the springs of skeleton skirts," confers no right, as against the De Forest and Gilbert patent to make, under the Loft patent, the covered wire contained in such bustle. *Id.* 230
27. Although such covered wire may be made by means of the machinery described in the Loft patent, no such wire or skirt-hoop is described or shown

Particular Patents.

in the Loft patent, nor is the apparatus of that patent one which necessarily produces nothing else but such wire or skirt-hoop. *Id.* 230

DUDLEY—HAND-MIRROR.

28. The letters patent for an "improved hand-mirror," granted to W. U. Dudley and Lawrence W. Clark, as assignees of W. U. Dudley, the inventor, July 27, 1869, are invalid. *Clark v. Scott.* 245
29. The claim of said patent, namely, "A hand or portable toilet-mirror, constructed, substantially as described, of a base-piece, B, with its handle-extension piece or stiffener, C, glass, A, and outer back and handle, D, made of any suitable composition or cement, substantially as specified," covers a hand-mirror made of a cement applied in a plastic state and afterward hardened, and which has in it two flat wires or strengtheners, made of metal, imbedded in the cement and concealed from view, and running from the body of the mirror part through the neck and into the handle, and serving to stiffen and strengthen the article, particularly at the junction of the handle with the body. *Id.* 245
30. The brush described in letters patent for an "improved brush," granted to J. S. Parsons and George A. Scott, as assignees of Alanson C. Estabrook, June 19, 1866, namely, a brush in which the bristles, inserted through a perforated plate, are imbedded and held firmly in a suitable cement, which cement, at the same time, in combination with the plate, and an extension of the plate into the handle, forms the back and handle of the brush, is not, as a structure, substantially the same thing as the hand-mirror covered by the patent to Dudley and Clark. *Id.* 245
31. Such hand-mirror, as an article of manufacture, was patentable, as distinguished from a brush, even though the backs and handles of the two were made in the same way, there having been a point of utility and adaptability in applying the non-warping property of the back and handle to rendering the glass of the mirror free from liability to fracture, which constituted sufficient invention to support a patent for a mirror, even though a brush with a like back and handle had existed before. *Id.* 245

FLAGG—SUSPENDERS.

32. The letters patent for a "composite felt suspender end, composed of felt, combined with a strengthening material," granted to Thomas J. Flagg, September 14, 1869, are valid. *Fisk v. Church.* 540

GRAHAM—LOOMS.

33. Letters patent for "improvement in picker-staff motion for looms," granted to E. H. Graham, October 16, 1860, and reissued May 28, 1867, examined and sustained. *Graham v. Mason.* 1

Particular Patents.

HAYDEN—BRASS KETTLES.

34. The two reissued letters patent granted to the Waterbury Brass Company, May 24, 1870, as assignees of Hiram W. Hayden, the inventor, one for an "improvement in machine for making kettles," and the other for an "improvement in brass kettles," are valid. The first-named patent is for a machine, and the other patent is for the product of the process wrought by such machine, the machine and the process being described in the same terms in each. *Waterbury Brass Co. v. Miller.* 48

HAYWARD—VULCANIZED RUBBER.

35. The invention of Daniel Hayward, for improvements in the process of manufacturing vulcanized rubber, as described in the reissued patent granted to James S. Carew, July 6, 1869, consists, first, in the use of a mold, which is heated by steam before the compound is placed in it, or before the pressure is applied for molding it, the other portion of the mold or the die being also heated by steam, and brought into its place with force sufficient to cause the compound, when softened by the heat, to completely fill the mold; second, in applying heat by means of steam in steam chambers or steam jackets, the heat of the steam being conducted to the compound by the walls of the steam chamber or steam jacket; third, in applying the necessary heat to the compound while under pressure, either external or such as is produced by the expansion of the compound when confined in the molds. *Carew v. Boston Elastic Fabric Co.* 90
36. These inventions are not anticipated by anything that was patented to Charles Goodyear, or in the English patents of Thomas Hancock, nor in that of Samuel Lord, for a method of pressing woolen cloths, nor in the patent of John Smith, for the construction of molds heated by steam, or otherwise, for shaping the brims of hats. *Ib.* 90

HEATON—IRON-PLATED SHIPS.

37. The letters patent for "an improved defensive armor for ships and other batteries," granted to Charles W. S. Heaton, April 14, 1863, are void, for want of novelty. *Webb v. Quintard.* 276

HICKS—BREECH-LOADING FIRE-ARMS.

38. The reissued letters patent for an "improvement in breech-loading fire-arms," granted to William C. Hicks, March 1, 1870, the original patent having been granted to Hicks, as inventor, March 10, 1857, are valid. *Renwick v. Pond.* 569
39. Hicks was the first person who devised a practical mechanism for certainly withdrawing a loaded cartridge from its chamber, in a breech-loading fire-arm, under all conditions, as well when its rim or flange has not been ex-

Particular Patents.

panded by the blow of a striking instrument, as when it has been so expanded, by effecting such withdrawal, through the engagement, within the periphery of such chamber, of a hook, actuated automatically, with a metallic flange forming part of the cartridge. *Id.*

569

HORSFORD—ACID PHOSPHATE.

40. The first and second claims of the reissued letters patent for an "improvement in pulverulent acid for use in the preparation of soda powders, farinaceous food, and other purposes," granted to the Rumford Chemical Works, June 9, 1868, as assignees of Eben N. Horsford, as inventor, the original patent having been granted to Horsford, April 22, 1856, reissued to the plaintiffs May 7, 1867, and again reissued to him June 9, 1868—namely: 1. "As a new manufacture, the above-described pulverulent phosphoric acid;" 2. "The manufacture of the above-described pulverulent phosphoric acid, so that it may be applied in the manner and for the purpose described"—are void for want of novelty, regarding the second claim as one to the described process of making the acid claimed in the first claim as a new manufacture. *Rumford Chemical Works v. Lauer.*

615

41. The third claim of the said patent—namely: "The mixing, in the preparation of farinaceous food, with flour, of a powder or powders, such as described, consisting of ingredients of which phosphoric acid, or acid phosphates, and alkaline carbonates are the active agents, for the purpose of liberating carbonic acid, as described, when subjected to moisture or heat, or both"—is a claim to the mixing of the acid and the alkali with the flour, in a dry state, and stopping at that point, without applying moisture or heat. *Id.*

615

42. Such claim is void, in view of the letters patent granted by the United States, May 1, 1849, to John Fowler, which described a mixture consisting of flour, and dry, powdered tartaric acid, and a dry, powdered, alkaline carbonate, requiring only the addition of water to make dough. *Id.*

615

43. The substitution of phosphoric acid, or acid phosphate, in the mixture referred to in such claim, in place of the acid named in Fowler's patent, was a mere formal and colorable alteration of Fowler's mixture, and not an invention, and not the subject of a patent. *Id.*

615

44. The fourth claim of the said patent—namely: "The use of phosphoric acid, or acid phosphate, when employed with alkaline carbonates, as a substitute for ferment or leaven, in the preparation of farinaceous food"—is a claim to the actual use of such acid and alkali in making raised dough, and is valid. *Id.*

615

HUNT—LOCKWOOD—GRAY—EVANS—PAPER COLLARS.

45. The reissued letters patent No. 1828, for an "improvement in shirt-collars," granted to William E. Lockwood, as assignee, November 29, 1864, the original patent, No. 11,376, having been granted to Walter Hunt, as inventor,

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July 25, 1854, the claim thereof being, "As a new manufacture, a shirt-collar composed of paper and muslin, or its equivalent, and polished or burnished, substantially as and for the purpose described," are not invalid, as being for an invention different from that described in the original patent. *Union Paper Collar Co. v. Van Deusen.*

597

46. Under the language of the specification of the original patent, such claim would have been a proper claim in such patent. It is, therefore, a proper and valid claim in the reissue. *Ib.* 597
47. The reissued letters patent No. 1980, for "improvement in collars," granted to William E. Lockwood, as inventor, June 6, 1865, the claim thereof being "as a new article of manufacture, an embossed collar or cuff, made of a fabric composed of paper and muslin, or an equivalent fabric," and reissued letters patent No. 1981, for "improvements in collars," granted to said Lockwood, as inventor, June 6, 1865, the claim thereof being "as a new article of manufacture, an ornamental collar or cuff, made of a fabric composed of paper and muslin, or of an equivalent fabric, ornamented by printing or otherwise marking on the surface plain or colored devices," the original patent, No. 23,771, having been granted to said Lockwood, April 26, 1859, are both of them invalid. *Ib.* 597
48. No. 1980 does not claim any appliance or machinery for embossing, or any process of embossing, but only the result, in the embossed article, as a new article of manufacture, and is merely for embossing on a surface which imitates starched linen; the starched linen collar, with its surface embossed, having existed before; the invention of the imitative surface, or of a means of producing it, not being claimed; and the fabric of paper and muslin being old. *Ib.* 597
49. There was no patentable novelty in the idea of embossing the imitative surface. *Ib.* 597
50. No. 1981 does not claim any machinery or process for doing the printing, but only the result, in the printed article, as a new article of manufacture, and is merely for printing plain or colored devices on a surface which imitates starched linen; printing having been done before on a smooth, white, enameled surface; the invention of an imitative surface, or of the means of producing it, not being claimed; and the fabric to be printed upon being old. *Ib.* 597
51. There was no patentable novelty in the idea of printing on the imitative surface. *Ib.* 597
52. The first claim of the reissued letters patent No. 1646, for an "improvement in shirt-collars," granted to Solomon S. Gray, as inventor, March 29, 1864, the original patent, No. 38,961, having been granted to him June 23, 1863, namely, "The turning over of a paper, or of a paper and cloth, collar, by a defined line, whether pressed into the material by a die or pointed instrument, or by bending it over the edge of a pattern or block, of the

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- proper curve or line, substantially as described," claims a defined line, whether straight or curved, made by the means indicated, and is void, for want of novelty. *Ib.* 597
53. The second claim of the said Gray reissue, namely, "Turning the part B, of a paper, or a paper and cloth, collar, over, onto, or toward the part A, in a curved or angular line, instead of a straight line, substantially as and for the purpose described," embraces the third claim, namely, "So turning over the part B, onto or toward the part A, in the manner above described, as that a space shall be left between the two parts, for the purpose and substantially in the manner herein described," and is void for want of novelty, as is also the third claim. *Ib.* 597
54. The reissued letters patent, No. 2309, for an "improvement in paper shirt-collars," granted to James A. Woodbury, as assignee, July 10, 1866, the original patent, No. 38,664, having been granted to Andrew A. Evans, as inventor, May 26, 1863, the claim thereof being, "a collar made of long fiber paper, substantially such as is above described," are void. *Ib.* 597
55. The invention claimed is not the process of making a paper possessing the qualities indicated, but the making of collars out of such a paper. *Ib.* 597
56. Whatever invention there was to be made in the premises was an invention of the paper possessing the described properties; and the inventor of the paper is he who invents the process of producing the paper. *Ib.* 597
57. Evans did not invent such process, and was not entitled to a patent for the paper, or for the collar to be made from it. *Ib.* 597
58. Paper collars being old, the application of such a paper to paper collars was not the subject of a patent. *Ib.* 597
59. The first claim of letters patent No. 56,737, for an "improvement in paper cuffs or wristbands," granted to James A. Woodbury, as assignee of Andrew A. Evans, as inventor, July 31, 1866, namely, "As a new article of manufacture, a wristband or cuff, made of long fiber paper, substantially such as is above described," is void, for the same reasons for which the claim of the said reissue No. 2309 is void. *Ib.* 597
60. The second claim of the said patent, No. 56,737, namely, "Making said wristband or cuff reversible, substantially as and for the purpose described," was new and patentable. *Ib.* 597

JENKINS—GLOBE-VALVES.

61. The letters patent for an "improvement in steam globe-valves," granted to Nathaniel Jenkins, October 6, 1868, are valid. *Jenkins v. Johnson.* 433
62. The claim of that patent, namely, "The arrangement of the bearing surface, *l*, of the valve-head and the elastic packing held in an annular recess in the valve-head, as described, with the valve-seat, *f'*, and the raised seat, *f*, in the manner as shown and specified," claims the arrangement of an annular chamber or cup, containing an elastic packing, with a raised seat, in connection

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- with the two bearing surfaces outside of the cup and the raised seat, the whole operating in the manner described. *Id.* 433
63. Such invention is not anticipated by a valve consisting of a raised seat, and a metallic receptacle fitting over it; nor by a valve with a raised seat and a cup, and a packing of lead or tin fused into the cup. *Id.* 433

JENKINS—ELASTIC PACKING.

64. The reissued letters patent for an "improvement in the manufacture of elastic packing," granted to Nathaniel Jenkins, August 3, 1869, are valid. *Jenkins v. Johnson.* 433
65. The first claim of that patent, namely, "An elastic packing, composed of at least four-tenths of finely pulverized, refractory, earthy, or stony material, intimately mingled with and held together by rubber prepared for vulcanizing, and then vulcanized, as and for the purpose described," claims a packing, into the composition of which there enters at least four-tenths of refractory, earthy, stony, or mineral matter, which must go in in a pulverized state, in order to be intimately incorporated with the India-rubber, which serves as a vehicle to hold the powder, the compound being then vulcanized by subjecting it to heat, in the presence of sulphur, and the result being a packing which is elastic, while it is indestructible by heat. *Id.* 433

JURGENSEN—NARDIN—STEM-SETTING WATCHES.

66. The claims of the reissued letters patent for an "improvement in stem-setting watches," granted to Jules Jurgensen, April 11, 1871, namely: "1. A stem-setting watch, so constructed that the setting mechanism is thrown into gear by turning down the pendent ring or bow, when the front cap or case is open, substantially as shown and described; 2. The combination of the cap or guard, E, with the pendent bow, C, and hand-setting mechanism, whereby the said cap, while closed, is made to prevent the bow from throwing the hand-setting mechanism in gear, substantially as shown and described," are infringed by watches constructed in accordance with the description contained in letters patent granted to V. J. Magnin, Guedin & Co., as assignees of James Nardin, August 17, 1869, for an "improvement in stem-winding watches." *Jurgensen v. Magnin.* 237
67. Before the plaintiff's invention, no projection on the bow or pendent ring of a watch had been used, through the turning down of such bow, to actuate a slide, to throw into gear the hand-turning wheels, and the slide had never been placed within reach of any such projection; and the plaintiff was the first to dispense at once with the projection of the slide outside of the case, and with the necessity for locking it by a pin, by putting it within the closed cover, and making it impossible for the projection on the bow to move it with the cover closed. *Id.* 237
68. The defendant's arrangement infringes, because the slide does not project outside of the case, and is within the cover, when the cover is closed, so as to

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- be thereby protected from accidental contact with anything; and because the slide is so placed, relatively to one of the collars on the bow, that, when the cover is open, and the bow is turned over, the collar will press on the slide, to effect the gearing with the hand-turning wheels. *Ib.* 237
69. In both, if the bow is turned down, when the cover is open, a projection on the bow presses against a slide, which bears against a spring, through the compression of which the gearing is effected with the hand-turning wheels, by the sliding motion imparted to a toothed wheel on the winding-stem; and, in both, when the cover is shut, such gearing can not be effected, even accidentally. *Ib.* 237
70. It makes no difference that there is in the plaintiff's arrangement a larger quantity of mechanism, and that the plaintiff places the slide and the projection to move it within the stem, while the defendant places them outside of the stem; and that the defendant can still move his slide by hand, when the cover is open, and the plaintiff can not so move his. *Ib.* 237

KITTLE—SPRING MATTRESS.

71. The first claim of the reissued letters patent for a "spring mattress," granted to Samuel P. Kittle, October 17, 1865, namely: "The combination of the two parts, A and A', and an intervening portion of the sides of the box of a box spring mattress, having the cases containing the stuffing attached to the said sides, the said parts A and A' and the intervening portion being connected to each other by hinges, the joints of which are located twice the distance apart of the thickness of the stuffing, substantially as herein above set forth," is infringed by a mattress, in which the sides of the box are divided into five parts, in such manner that the mattress contains the combination covered by said third claim, introduced twice, once at each end of the mattress. *Kittle v. Frost.* 213

LOEWENBERG—KENDALL AND TRESTED—BLAKE—BONNETS.

72. Letters patent for an "improved fabric for hats, bonnets, etc.," were granted to Henry Loewenberg, February 28, 1865, and reissued to the Modena Hat Company, April 30, 1867: *Held*, that the claim of said reissue for "the new compound fabric hereinbefore described, having, substantially, a foundation of interlaced threads, and a surface composed of fibrous material, stiffened by gelatinous matter and consolidated by pressure," was not infringed by the use, as a fabric, of muslin, having interlaced threads, but no surface of fibrous material, either as part of the fabric, or artificially applied. *Baldwin v. Schultz.* 75
73. Letters patent for an "improved compound for coating textile fabrics for manufacture of hats and bonnets" were granted to John L. Kendall and R. H. Trested, February 9, 1869: *Held*, that the claim of said patent for a compound composed of zinc white or its equivalent, or lead ground in a colorless or inodorous oil, such as castor oil or collodion, was not infringed by

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- the use of a compound not containing oil or collodion, but containing zinc white, starch, glue, glycerine, and damar. *Ib.* 75
74. In the claim of the letters patent granted to S. A. Blake, December 24, 1861, for an "improvement in bonnets," to wit, "a bonnet, cap, or other head covering, the body of which is made of two or more thicknesses of muslin, or other suitable fabric, shaped or formed with a series of raised or embossed stripes, in imitation of straw or other braid, by means of suitable dies, in the manner herein set forth," the word "body" means a part of the bonnet, which does not include the tip or crown-piece of the bonnet, and means that part of the bonnet to which the tip is united in the finished bonnet. *Ib.* 75
75. This invention is not anticipated by a hat in which the piece for the sides is embossed separately from the crown and the brim, by passing it between a presser-roller and an engraved metallic roller. *Ib.* 75
76. Nor by any construction of hats in which the surface is not embossed in imitation of straw or other braid. *Ib.* 75
77. The vague suggestion in a prior patent, that any device capable of being produced by stamping, may be applied to the hat by engraving or otherwise preparing the matrix and plunger to produce the effect required, is too general and indefinite. *Ib.* 75
78. According to the description in the specification of the Blake patent, the product of the action of the dies is the completed body of a bonnet, embossed in imitation of straw, and fit for use as the body of a bonnet, in the shape given to it by the dies, and without further ornamenting or covering its surface, and is not merely a frame, carcass, or skeleton, requiring to be afterward covered or ornamented, to make its exterior surface so comely and presentable as to be salable as a bonnet, and is not merely a fabric having the completed exterior surface necessary in the bonnet salable as such, but not shaped into its ultimate shape by dies, and requiring further manipulation to put it into such ultimate shape. *Ib.* 75
79. The proper construction of the claim of that patent is, that it claims a bonnet, the body of which is embossed in imitation of straw or other braid, by dies, which, at the same time, give to it its ultimate shape, such body being made of two or more thicknesses of muslin or other suitable fabric, united by starch or other suitable adhesive and stiffening substance. *Ib.* 75
80. The article produced according to the Blake invention is new and useful, an improvement in the trade, and patentable. *Ib.* 75
81. It is an infringement of the Blake patent to make a bonnet of three thicknesses of muslin, united by starch and shaped by dies, which, at the same time, emboss it in imitation of straw braid, although a coating is put on the muslin-frame before it is subjected to the final action of the dies. *Ib.* 75
82. A hat may infringe the Blake patent, and yet be seamless throughout. *Baldwin v. Bernard.* 442

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83. The essence of the invention of Blake being, that the product of the action of the dies to which the thing is last subjected is the completed body of the bonnet, embossed in imitation of straw, and shaped and ready for practical use, as the body of a bonnet, without further covering or ornamentation, the patent is infringed if the last embossing die gives the ultimate shape to the bonnet, although such dies may be of the same shape as a die to whose shaping action the bonnet had been previously subjected. *Ib.* 442

MOREHOUSE—WHIP-SOCKET.

84. The claim of the reissued letters patent for an "improvement in whip-sockets," granted to John O. Merriam and Edwin Chamberlin, as assignees of Charles B. Morehouse, the inventor, July 12, 1870, namely: "The whip-socket, B, having permanently attached thereto the stationary jaw or clamp, E, in combination with the detachable jaw or clamp G, whereby the said whip-socket may be fastened to and connected with the dash-board rod of a carriage or other vehicle, substantially in the manner and by the means herein described and set forth," is a claim to a whip-socket having, at the top and bottom thereof, metal rings or flanges, for the purpose of giving support and strength, with a stationary jaw of a clamp permanently attached thereto, and a detachable jaw to be applied to clasp the rod of the dash-board, the detachable jaw forming, in connection with its fellow, a mouth or double jaw, which can be slid off and upon the object to which it is to be fastened, and made tight thereon by the single screw which holds its outer end to its fellow. *Merriam v. Drake.* 259
85. Each part of this combination being old, the patentees could not, and do not, by their patent, close the door to any other combination of these old elements, or to any other mode of combining them which is not substantially the same as that set forth in the patent. *Ib.* 259
86. Such form of clamp allows the whip-socket to be made fast to the dash-board rod without perforating the leather thereof. *Ib.* 259
87. Such claim is not infringed by a whip-socket which has no rings or flanges, and has a substantially different clamp, requiring the perforation of the leather of the dash-board to admit of its application thereto. *Ib.* 259

OSBORN & VINCENT—SKIRT-HOOPS.

88. The letters patent for an "improvement in skirt hoops," granted to L. A. Osborn and I. J. Vincent, as assignees of Robert J. Mann, the inventor, June 22, 1858, are valid, so far as the second claim is concerned, namely, "Securing the hoop, *d*, to the perpendicular straps, by means of small clamps, constructed as herein described." *Doughty v. Day.* 224

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PLATT—BUTTONS.

89. The letters patent for an "improvement in buttons," granted to Clark M. Platt, July 10, 1866, are valid. *Platt v. U. S. Patent Button, Rivet, Needle, and Machine Mfg. Co.* 265
90. The claim of the patent, "The button, formed of a single piece of metal, with the edge turned over, and with one central hole, as a new article of manufacture, as specified," covers a button formed of a single thickness of metal, with the edge folded over upon the body of the metal, and with one central hole, capable of being used for a single rivet or eyelet, to fasten the button to the garment. *Ib.* 265
91. Such button is not anticipated by a button having the single piece of metal and the folded edge, but no central hole; or by a button in which the edge was not folded over upon the body of the single piece of metal; or by a button not made of metal; or by a button not made of a single piece of metal; or by a button made of a single piece of metal, with its edge folded over on the body of the metal, and with two, three, or four holes, so as to be attached to a garment by sewing; or by a button made of more than one piece of metal, in which the edge of one of the pieces of metal is folded over upon the other parts which make up the thickness of the button, and not upon itself. *Ib.* 265

PUTNAM—BOTTLE-STOPPER.

92. Letters patent granted to H. W. Putnam for "improved bottle-stopper fastener," March 15, 1859, reissued January 24, 1864, are valid. *Putnam v. Hickey.* 334

REEVES—COLUMNS.

93. This invention described in letters patent for an "improvement in the construction of columns, etc.," granted to S. J. Reeves, June 17, 1862, consists in a hollow shaft, so made as the result of a concentration in its periphery of the metal used in its construction, composed of at least three longitudinal segments of rolled iron, with flanges throughout their whole length, which are to be brought face to face, and through which they are to be fastened by bolts or rivets. *Reeves v. Keystone Bridge Co.* 456
94. This invention is not anticipated by a column composed of two rolled plates of wrought-iron, without flanges, semi-octagonal in form, and secured by rivets passing through the whole length of its diameter, binding the plates firmly to distance-pieces interposed between them to spring them apart in the middle. *Ib.* 456
95. Nor by a column composed of a flat iron bar, with two other flat bars at right angles to it, connected by means of angle-irons, which form a hollow space near the center of the connection. *Ib.* 456

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SANFORD & WHEELER—SEWING-MACHINES.

96. Letters patent for "improvement in sewing-machines," granted to F. S. Sanford and D. Wheeler, April 10, 1866, are valid. *Sanford v. Meuser.* 411
97. The novelty of the improvement in sewing-machines invented by Sanford & Wheeler sustained. *Ib.* 411

SARVEN—CARRIAGE-WHEELS.

98. The specification of the original letters patent for an "improved carriage-wheel," granted to J. D. Sarven, June 9, 1857, discloses two devices—one consisting of spokes, whereof a part are tenoned into a wooden hub, and a part are in wedge form, not thus tenoned; the other consisting of flanged collars applied to the hub and the spokes therein, whether the spokes are constructed in the manner last named, or in any other manner, the specification pointing out the application of flanged collars to a wheel containing the ordinary number of spokes, in which it is probable, at least, that the extra or increased number of spokes not tenoned into the hub are omitted. *Sarven v. Hall.* 415
99. The reissued letters patent granted to said Sarven, September 6, 1870, on the surrender of said original patent of 1857, in declaring that the invention embraces the combination of the flanged collars with a wooden hub, into which the spokes are tenoned, without including the wedge-form spokes, or the solid bearing of the spokes upon each other exterior to the hub, do not embrace a device not found in the record of the original patent. *Ib.* 415
100. The first claim of said reissued patent, namely, "A carriage-wheel constructed with the spokes combined with a wooden hub by tenons entering mortises in said hub, and with each other, in such manner that a solid belt is formed around the said hub, substantially as before set forth," is limited to a solid belt formed by alternating tenoned spokes with wedge-formed spokes not tenoned, and is not infringed by a wheel in which all the spokes are tenoned into the hub. *Ib.* 415
101. The second claim of said reissued patent, namely, "A carriage-wheel constructed with a mortised wooden hub, with tenoned spokes, and with flanges which embrace the faces of the spokes in the immediate vicinity of the hub, and are connected together so as to form a metallic band, through which the spokes extend into the mortises in the wooden hub, substantially as before set forth," is valid. *Ib.* 415
102. Such claim is infringed by a wheel having tenoned spokes, and a wooden hub, and a mortised collar, cast in one piece, with divisions between the mortises for the several spokes, and with tapering sides formed to receive the spokes driven tightly therein, and give them endwise bearings. *Ib.* 415
103. Such claim is not a claim for a mere aggregation of devices. *Ib.* 415

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104. As the mortised collar performs, both mechanically and practically, in the combination, the same office that is performed by the flanges of the plaintiff's wheel, it is none the less an equivalent therefor, in the combination, because it performs an additional office, not performed by such flanges. *Ib.* 415

SAWYER—PACKAGES.

105. The reissued letters patent for an "improvement in putting up powders, etc.," granted to Henry Sawyer, October 1, 1867, which claim, as a new article of manufacture, "a package or case, which, when made with distributing holes, and filled, is cemented by the wax or wafer, as set forth," do not cover any patentable invention. *Sawyer v. Bixby.* 283

SHAW—SMUT-MILL.

106. The third claim of the reissued letters patent for an "improved smut-mill and separator," granted to Daniel Shaw, January 11, 1870, namely, "In combination with a smutter or scourer, and a suction-fan, both arranged on and driven by the same shaft, and an air-trunk for directing the course of the blast, a regulator, for changing the force or volume of the current of air, without changing the speed or motion of the smutting or scouring cylinder, substantially as described," is limited to a combination in which a tight smutter or scourer is employed, and does not cover a combination in which an open scourer is employed. *Knox v. Murtha.* 174
107. Reasons stated why such third claim is, probably, invalid. *Ib.* 174
108. The fifth claim of the patent, namely, "The arranging of the smutter or scourer and the suction separating fan within or between the legs of the blast or air-trunk, in which the entire separation is made, and which passes over or around them, for the purpose of economizing space, and cheapening the construction of the machine, substantially as described," is void, as covering no patentable invention. *Ib.* 174

SMITH—ORE-WASHER.

109. The letters patent of John R. Smith, for improved machine for crushing and washing sand, granted August 27, 1867, are void for want of novelty. *Smith v. Frazer.* 543

SMITH—CORDED ELASTIC FABRICS.

110. The reissued letters patent for an "improvement in corded elastic fabrics," granted to William Smith, June 30, 1868, division B, the original letters patent having been granted to him April 5, 1853, and subsequently extended, are void for want of novelty. *Smith v. Elliott.* 315
111. The claim of such reissued patent—namely, "the corded fabric, substantially as hereinbefore described, in which the cords are elastic, and are held between the upper and under weft threads, and separated from each other by the interweaving of the upper and under weft threads with the warp threads,

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in the spaces between the cords, and only there, substantially as above shown"—is anticipated by a like fabric, which existed before, although not woven of a width, or fineness, or elasticity, suitable to be used for the gores of boots, and not so used, and although the fabric introduced by the patentee possessed the qualities which fitted it to be used for the gores of boots, and it was so used, and displaced other elastic fabrics before used for that purpose.

Ib.

315

STAINTHORP—CANDLES.

112. The first claim of the letters patent granted to John Stainthorp, March 6, 1855, for an "improvement in machines for making candles," namely, "the employment of the pistons, D, D, formed at their upper ends into molds for the tips of the candles, in combination with stationary candle-molds, to throw out the candles in a vertical direction, substantially as herein set forth," is infringed by a machine in which the piston has a flat end, and molds a candle with a flat end, instead of a convex tip, provided the piston is used in combination with the stationary mold, to throw out the candle in a vertical direction, as described in the specification. *Thayer v. Wales.*

130

113. The said letters patent are valid. *Ib.*

130

TARR & WONSON—PAINT.

114. The claim of the reissued letters patent, No. 4,598, division A, for an "improvement in paint for ships' bottoms," granted October 17, 1871, to James G. Tarr and Augustus H. Wonson, the original patent having been granted to them November 3, 1863, and reissued August 6, 1867, and again reissued in two divisions, October 17, 1871, namely, "A paint, consisting of oxide of copper, with a suitable vehicle or medium, substantially as described," read in the light of the specification attached, seeks to secure any mixture capable of being applied as a paint, in which oxide of copper is an ingredient, and, so understood, is invalid. *Tarr v. Webb.*

593

115. The poisonous effect of oxide of copper was known, and the protection of surfaces by applying compounds to them was known. *Ib.*

593

116. The subject-matter of the patent, even if patentable, was not new. *Ib.*

593

TAYLOR—GARRETSON—MOP-HEADS.

117. The first claim of the reissued letters patent for an "improved mop-head," granted to Luke Taylor, October 19, 1869, the original letters patent having been granted to him February 15, 1859, and reissued November 10, 1863, and again reissued November 24, 1868, namely, "In a mop-head, in which the cross-head or stationary jaw is attached permanently and immovably to the handle, operating the movable jaw or binder by means of a tubular screw or socket fitted in the handle, and having its screw-thread on its exterior, in combination with a nut encompassing the screw, and connected with the movable jaw, so as to operate substantially as shown and described," is, in

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- substance, a claim for the described devices, arrangement, and organization for operating the movable jaw of a mop-head, in which the cross-head or stationary jaw is attached permanently and immovably to the handle, by means of the screw formed on the exterior of the collar described in the specification, so fitted to and fixed upon the handle as to revolve thereon without longitudinal motion, in combination with a nut encompassing the screw, and connected with the movable jaw so as to operate substantially as shown and described in the specification. *Taylor v. Garretson.* 116
118. The second claim of the said reissued patent, namely, "In a mop-head, in which the movable jaw or binder is operated through the medium of a screw-nut or collar, by means of thumb-ears attached to or formed with the said screw-nut or collar, placing the said ears outside the yoke or bow of the movable jaw or binder aforesaid, as herein described, for the purpose set forth," is, in substance, a claim to the invention of the described location and use of the thumb-ears attached to the tubular screw or collar, with a screw on its exterior, constructed and operated substantially as described, in a mop-head in which its movable jaw is operated through the medium of such tubular screw or collar, with screw-threads on its exterior, in connection with a proper nut encompassing and acting with such screw. *Id.* 116
119. A mop-head constructed in accordance with the description contained in letters patent for an "improved mop-head," granted to Oliver S. Garretson, August 13, 1867, is not an infringement of the said reissued patent to Taylor, as it does not contain Taylor's revolving collar, with a screw-threaded exterior, or any mechanical equivalent thereof. *Id.* 116
- THOMPSON—BURNING WET FUEL.
120. The reissued letters patent for an "improvement in furnaces for burning wet fuel," granted to Moses Thompson, March 31, 1857, the original patent having been granted to him, as inventor, April 10, 1855, and reissued to him October 7, 1856, and the patent having been extended for seven years from April 10, 1869, and the letters patent for an "improvement in bagasse furnaces," granted to said Thompson, December 15, 1857, and extended for seven years from December 15, 1871, are valid. *Black v. Thorne.* 550
121. The first claim of the reissue of 1857, namely "using green bagasse, wet tan, wet sawdust, and other wet carbonaceous or vegetable substances, as fuel, for the production of intense heat, by mingling the gases issuing from a highly heated mass thereof, with those arising from carbonaceous combustion, by the intervention of a flue or chamber, with which the chamber or chambers containing the fire and charge of wet substances communicate, and in which said gases meet, mingle, and consume each other, on their way to the apparatus to be heated and to the stack," is a claim to the use of a flue or chamber, intervening between, on the one hand, the chamber or chambers containing the fire or carbonaceous combustion and a highly heated mass of the wet substances named; and, on the other hand, the apparatus to

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- be heated and the stack, for the purpose of mingling, in such chamber, the gases issuing from such highly heated mass with the gases arising from the fire of carbonaceous combustion, so that such gases may consume each other in such flue or chamber, and thus intense heat be produced, by the use, for fuel, of such wet substances. *Id.* 550
122. The said first claim is for a process carried into effect by an apparatus. The prior apparatus would not have enabled the patentee to work his new process, nor was such process ever worked before in any apparatus. *Id.* 550
123. The second claim of said reissue, namely, "The combustion, for the purposes of a high degree of heat, of bagasse, refuse tan, sawdust, and other wet refuse substances, or very wet and green wood, by the employment of a series of fire-chambers, arranged in any manner, substantially as described, to communicate with one common flue or mixing chamber, when any number of said chambers are nearly closed to the admission of air, when first charged, as described, whilst the remaining chamber or chambers is in full communication with the mixing chamber, and has a proper supply of air admitted; and the ash-pit of each chamber, in its turn, is nearly closed, and then opened, and has air admitted, whereby the heat required is rendered continuous and comparatively uniform, while the fuel in some of the chambers is being heated and decomposed, and its gases sent forward to the mixing chamber, to any desirable degree, as herein set forth," is a claim for an apparatus when employed to work a process, the apparatus and the process being both of them new with the patentee. *Id.* 550
124. The claims of the letters patent granted to said Thompson, December 15, 1857, for an "improvement in bagasse furnaces," are for special constructions to work out more effectually the process of burning wet fuel discovered by Thompson, and made known in his original patent of 1855, and are valid claims. *Id.* 550
125. The form of apparatus shown by Thompson in his drawings, and described, admits of many formal variations within the principle of his inventions and the scope of his claims. *Id.* 550
126. Consideration of constructions which would infringe various claims of Thompson's patents. *Id.* 550
127. Thompson was the first to discover and put in practice the true method of economically burning wet fuels, and obtaining from them better results than from equal quantities of dry fuels. *Id.* 550

THOMPSON—CAUSTIC ALKALI.

128. Letters patent for caustic alkali, inclosed in a tight metallic casing or integument, as reissued to George Thompson, April 16, 1867, examined and sustained. *Pennsylvania Salt Mfg. Co. v. Thomas.* 148

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THOMPSON & BACHELDER—CAR-BRAKES.

129. Whether the claim of the letters patent granted July 6, 1852, to Henry Tanner, as assignee of Lafayette F. Thompson and Asahel G. Bachelder, for an "improved mode of operating the brakes of railway cars,"—namely, "to so combine the brakes of the two trucks with the operative windlasses, or their equivalents, at both ends of the car, by means of the vibrating lever, A', or its equivalent, or mechanism essentially as specified, as to enable the brakeman, by operating either of the windlasses, to simultaneously apply the brakes of both trucks, or bring or force them against their respective wheels, and whether he be at the forward or rear end of the car,"—is limited to a combination of two or more brake systems, as they are ordinarily found in the swivelling car-trucks of an eight-wheeled car, with each other and with the operative windlasses, by means of a vibrating lever, or whether it covers any combination of the brakes of a car with each other, and with the windlasses, by means of a vibrating lever, so that all the brakes can be applied simultaneously from either end of the car, even where the car has no swivelling trucks with separate brake systems, *quære. Mowry v. Grand Street and Newtown Railroad Co.* 586

TILGHMAN—MORSE—ENGRAVING GLASS.

130. The letters patent granted to Benjamin C. Tilghman, October 18, 1870, for an "improvement in cutting and engraving stone, metal, glass," etc., are valid. *Tilghman v. Morse.* 323
131. The use, for ornamenting the surfaces of glass and metal, of the process described in letters patent, for an "improvement in the ornamentation and dressing of the surfaces of glass and other substances," granted to George F. Morse, November 21, 1871, is an infringement of the first claim of said patent to Tilghman, which is, "the cutting, boring, grinding, dressing, engraving, and pulverizing of stone, metal, glass, pottery, wood, and other hard or solid substances, by sand used as a projectile, when the requisite velocity has been artificially given to it by any suitable means." *Ib.* 323
132. The word "artificially" in such claim, and throughout the specification of the Tilghman patent, covers the falling of sand through a vertical tube, high enough to enable the sand to acquire sufficient velocity to do its work. *Ib.* 323
133. Such claim is a claim for a process or art. *Ib.* 323
134. The invention of Tilghman consists in the discovery that a stream of sand, driven with sufficient velocity to cause the grains of sand, through their own velocity and momentum, to act as projectiles against the article to be cut or dressed, will do the work effectually, without any vehicle to carry the sand into contact with the article, and without any contact between anything and the article except the sand. *Ib.* 323
135. Such invention was not anticipated by a process in which sand or emery was rubbed against the surface of glass by the wires of a rotating wire brush; or

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by the use, on a locomotive engine, of a stream of sand, combined with a jet of steam, to drive cows from the track of a railroad. *Ib.* 323

VOELTER—PAPER-PULP.

136. Letters patent for an "improvement in reducing wood to paper-pulp," reissued to A. Pagenstecher, assignee of Henry Voelter, June 6, 1871, which improvement consists in defibring the wood by acting upon a block by a grinding surface, which moves substantially across the fibers, and in the same plane with them, are valid. *Miller v. Androucoggin Pulp Co.* 340
137. Such invention is not anticipated by the French patent of Christian Voelter for grinding wood upon the ends of the fibers, or by the English patent of A. A. Brooman, for grinding wood by a stone moving diagonally across the fibers. *Ib.* 340

WARTH—VALVES FOR OIL-CANS.

138. The letters patent for an "improvement in stop-valves for petroleum packages," granted to Albin Warth, April 19, 1870, make, in each one of their two claims, a cup-shaped disk a material part of the invention, such disk being a valve-seat for a valve, and having the effect, by reason of being cup-shaped, to sink the valve within the package, so that there shall be no part projecting outside. *Meissner v. Dewee Manufacturing Co.* 285
139. The cup-shaped form of the disk is made, by the specification and claims, an essential part of the invention. *Ib.* 285
140. Such patent is not infringed by a stop-valve of convex form, not suspended below the surface of the package, though in other respects constructed like the patented arrangement. *Ib.* 285

WELLS—BOYDEN—HAT-BODIES.

141. The machine described in reissued letters patent for an "improvement in machinery for making hat-bodies," granted to complainant May 19, 1868, consists of a feeding apron to receive the fur, two endless rollers to carry it to the revolving brush, a picker, a revolving brush to separate and throw the fibers of fur, a perforated cone, with an exhausting cylinder beneath to receive the fur, and an intermediate tunnel or chamber to conduct the fur to the cone; the aperture of the tunnel chamber nearest the cone having a hinged hood at the upper extremity, and a hinged flap at the lower side, to regulate the deposit of fur upon the cone. These devices were separately well known before, but they were so combined by Wells that a concrete machine was contrived, capable, in the formation of hat-bodies, of performing a new and useful result. *Wells v. Jacques.* 136
142. The machine described in letters patent for an "improvement in machinery for forming hat-bodies," granted to Seth Boyden, January 10, 1860, employs, in common with the Wells machine, various mechanical devices, such as the feed-apron, rollers, pickers, and perforated vacuum cone, all well known be-

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fore, and which Boyden had a right to use; but the patentee claims as new a curved or bent plate-board, in lieu of the Wells chamber or tunnel, with its hood and flap, for directing and guiding the fur from the brush or picker, and properly distributing the same upon the cone. *Ib.* 136

143. The Supreme Court held that such a machine was no infringement of the Wells patent, but that the combination of devices by which the result was effected was not identical in the two machines, but dissimilar. Subsequently to that decision, the Wells patent was again reissued, and a recovery was had, under the last reissue, against the defendants, in a suit at law, in the Southern District of New York. The bill, in the present case, alleged that the defendants were using the same machine against which the recovery was had, with trifling alterations in the deflecting apparatus, and prayed for an injunction: *Held*, that, under the circumstances, a provisional injunction must be refused. *Ib.* 136

WHITCOMB—HAY-RAKES.

144. Letters patent for an "improvement in hay-rakes," as reissued to George Whitcomb, June 16, 1868, are valid. *Brown v. Whittemore.* 524
145. Whitcomb's main invention construed to be for the relative arrangement of the rake-head, axle, and wheels, irrespective of the position of the hinges, whether on the upper or the lower edge of the rake-head. *Ib.* 524
146. The previous state of the art does not restrain him to a rake-head hinged to the shafts in the precise way shown in the patent. *Ib.* 524

WHITNEY—CAR-WHEELS.

147. Whitney's patent, April 25, 1848, for "improvement in annealing and cooling cast-iron car-wheels," is not for a combination, but for a process which consists in applying foreign heat to a hot-chilled wheel at the point of time when it has reached a particular stage of cooling, by means of such heat bringing the whole casting up to a higher and uniform temperature, and maintaining an equable abatement of heat in a furnace or chamber under the control of the operator. *Mowry v. Whitney.* 494
148. This is more than a process of annealing, or of a double use of that process; and in all the experiments previously made for annealing other castings, the object sought was different, and the effect upon the annealed metal or glass was not to leave them in the condition to which it was sought to bring car-wheels—with the crystallization or chill of the periphery unimpaired, and the plate or thin part unaffected by strain. *Ib.* 494
149. It being clearly indicated in the specification that the primary object of Whitney's process of making car-wheels is to relieve from and to guard against hurtful strain, without destroying the chill, and that the chilled

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wheel is placed in the heating-furnace for this purpose, an operator, in following the directions of the specification, would be taught by his practical knowledge that the instant the thin parts of the wheel had been heated to the temperature at which the strain commenced—a lower temperature than that which existed when the chill was formed—no more would be needed.
Id.

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150. The defendant having taken his wheels red-hot from the molds, and packed them in a pit with charcoal, his avowed object being to reheat them to the proper temperature, to prolong the heat, and to cool them gradually, in order to counteract the strain from unequal contraction: *Held*, that the process embodied the same idea as Whitney's invention, and was carried out by means identical in principle. *Id.*

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WOODWARD—PASTE.

151. The invention patented to Joseph Woodward, February 20, 1866, for an improved paste, consisted in the discovery that the use of a very minute quantity of corrosive sublimate would arrest the tendency to fermentation in the paste, without imparting to it any poisonous properties; also, that an improved result was effected by the addition of chloride of sodium, or an equivalent salt, soluble in the aqueous solution of corrosive sublimate. *Woodward v. Morrison.*

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WOOLCOCKS—SPEAKING-TUBE WHISTLES.

152. The first claim of the letters patent granted May 24, 1870, to Thomas J. Woolcocks, for an "improvement in speaking-tube whistles," namely, "in combination with the cylindrically formed barrel A, the stem F having the reacting spring G attached to it, and operating on the outside of the barrel, as hereinbefore described, and for the purposes set forth," is infringed by a combination consisting of the barrel, stem, and spring, the spring being attached to the stem, and operating on the outside of the barrel, and the barrel being octagonal instead of cylindrical, the combination being, in all other respects, the same, and the octagonal form possessing all the advantages of, and being the equivalent of, the cylindrical form, as contradistinguished from the previous square form. *Woolcocks v. Many.*

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WEBB—REVERSIBLE LATCHES.

153. Letters patent for "improvements in reversible locks and latches," granted to Rodolphus L. Webb, December 31, 1867, are valid. *Russell & Erwin Manufacturing Co. v. Mallory.*

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See ASSIGNMENT, 3; CONSTRUCTION OF PATENT, 10, 13, 20; INFRINGEMENT, 10, 13, 14, 15, 16, 17, 18, 28, 40, 41; INVENTION, 4, 6, 7, 25; REISSUE, 7, 13, 14.

Parties—Patent Office Practice.

PARTIES.

1. The assignee of an exclusive right to use, but not to make the thing patented within specified territory, may maintain an action against an infringer in his own name. *Chambers v. Smith.* 12
 2. Where the want of parties complainant is not set up or suggested in the answer, it can not avail, unless the case is one in which the court can not proceed to a decree between the parties before it without prejudice to the absent parties. *Wallace & Sons v. Holmes, Booth & Haydens.* 37
 3. S. & W. conveyed to S. & B. all their right, title, and interest in and to an invention, within the State of Massachusetts, except the right to build the patented machines. In a suit against one who had infringed by making the patented invention: *Held*, that the suit was properly brought in the name of S. & W., without joining S. & B. *Sanford v. Messer.* 411
- See PRACTICE, 4.

PATENT.

See CONSTRUCTION OF PATENT, 4, 5; INVENTION, 1.

PATENTEE.

1. Property in a patent is just as much under the protection of the law as property in land. *Cook v. Ernest.* 396
 2. When the owner has made good his claim to his patent, and shown an infringement of it, it is the duty of the courts to give him the same relief meted out to suitors in other cases. *Id.* 396
- See CONSTRUCTION OF PATENT, 4, 5; INVENTION, 1; PUBLIC USE, 9.

PATENT OFFICE PRACTICE.

1. The act of 1861, which requires "that all applications for patents shall be completed and prepared for examination within two years, also provides that the delay may be condoned by proof to the satisfaction of the commissioner, that it was unavoidable. If a patent be granted, it must be assumed that there was evidence before the commissioner to show that there was no unavoidable delay in preparing the application for examination. *M'Millin v. Barclay.* 189
 2. The decision of the commissioner upon a question of fact, upon which he is authorized to pass, is unimpeachable, except upon the ground that it is *ultra vires*. An infringer can not assail it for fraud, much less for mere error of judgment. *Id.* 189
- See ABANDONMENT, 5; EVIDENCE, 2; REISSUE, 3, 4, 9.

Pleading.

PLEADING.

1. As the letters patent, when introduced in evidence, are presumed to be valid until the contrary is shown, the issue of the novelty of the alleged invention, whether tendered by the defendant in a suit in equity or an action at law, ought to be clearly expressed and unconditional. *Graham v. Mann*. I
2. Conditional denials of the novelty of an invention are not regular; the denial should be explicit and unqualified. *Ib.* I
3. Pleadings in equity, as well as in actions at law, should be single, clear, and free of evasion. More than one defense may be presented in the answer, but each should be separately and clearly alleged, without any conditions or undefined qualifications. *Ib.* I
4. Persons charged with infringement may set up the defense that the patentee was not the original and first inventor of the alleged improvement, but in that event they must allege in the answer, if the suit is in equity, the names and places of residence of those whom they intend to prove to have possessed a prior knowledge of the thing, and where the same had been used. *Ib.* I
5. Infringement being alleged in the bill, the defendants should answer it distinctly and unequivocally. *Jordan v. Wallace*. 185
6. An answer which only denies that the defendants used the patented invention, "with a full knowledge of the premises mentioned in said bill of complaint, and in violation of the complainant's exclusive right secured by the patent of 1864," is an implied admission of its actual use, and the complainant is not required to make any further proof of infringement. *Ib.* 185
7. An averment in the answer that the patent "was obtained upon false and fraudulent representations by the plaintiffs, or some of them, made to the Commissioner of Patents, and is wholly void in law," is too general to raise any triable issue. *Clark v. Scott*. 245
8. If in the notice of special matter relating to the novelty of the patented invention, the sources of defendants' proofs are indicated with such distinctness that the complainant can identify and resort to them, the purpose of that provision of the law which requires the defendant to give the "names and residences of those whom he intends to prove to have possessed a prior knowledge of the thing, and where the thing had been used," is answered. *Smith v. Frazer*. 543
9. A departure from the defense alleged in the answer is not permitted in courts of chancery, where the complainant is entitled to call upon the defendant to answer under oath: *Russell & Erwin Manufacturing Co. v. Mal-lory*. 632

See ABANDONMENT, 16; EVIDENCE, 4; PRACTICE, 2, 4, 13, 14, 20, 21, 22.

PRACTICE.

1. Before it can be ascertained whether the claims of the patent in any given case cover what was made and used and sold by the respondent, it always becomes necessary to construe the letters patent. *Graham v. Mason.* 1
2. Objections on account of the defect of failing to name places and persons in the answer, ought, in general, to be taken by exceptions, as it is the proper subject of amendment under special orders. *Ib.* 1
3. In applying the language of courts, attention must be paid to the facts with which they are dealing. This is especially true when citing opinions in patent causes. *Bevin v. East Hampton Bell Co.* 23
4. If it appear that the complainants have title, though not as sole owners, and no objection has been made by plea or answer, the court might perhaps proceed, treating the defendants as having waived the objection; or, at most, it might direct the absentee to be made a party, if necessary. *Wallace & Sons v. Holmes, Booth & Haydens* 37
5. An irregularity in the service on a defendant of the subpoena in a suit in equity affords no reason for withholding an injunction against him, if he has had notice of the motion for the injunction, and appears to oppose it. *Thayer v. Wales.* 130
6. The plaintiff must not strengthen his case, on the question of infringement, by rebutting affidavits. There would be great danger of surprise if he were permitted to do this under the guise of a reply. *Union Paper Bag Machine Co. v. Binney.* 166
7. A suit in equity for the infringement of letters patent may be brought in the circuit court for any district in which the defendant may be found, although the infringement has been committed in another district, in which the defendant resides. *Thompson v. Mendelsohn.* 187
8. The process of the court is primarily directed against the person of the wrong-doer, and it is no sufficient reason against the court to award it, that it may not furnish to the plaintiff effectual relief, or that its operation may be evaded by the defendant. *Ib.* 187
9. In opposition to a motion for an injunction, a general allegation, by affidavit, on information and belief that the thing patented existed before, without disclosing the particulars of the information leading to the belief, is insufficient. *Young v. Lippman.* 230
10. A separate affidavit, by the plaintiff, of his belief that the patentees were the original and first inventors of the thing patented, dispensed with, the bill having in it such an averment, and having been sworn to eleven days before it was filed and notice of application on it for the injunction was given. *Ib.* 230
11. When suit for the infringement of a patent is brought in the law in preference to the equity side of the court, the question of the diversity or identity

Practice.

- of the invention covered by plaintiff's patent, with an alleged prior invention, must be submitted to the jury, if there is such resemblance as raises the question at all. *Tucker v. Spaulding.* 297
12. Where the bill of exceptions showed that, in a suit at law for the infringement of a patent, the court below refused to admit the testimony of experts to prove the identity of the invention with that covered by another patent, confessedly prior in date to that of plaintiff, and refused to permit such prior patent to be read to the jury: *Held*, that these rulings were erroneous, and a new trial ordered. *Ib.* 297
13. The court can make no use of a prior patent, introduced without notice, to show the state of the art, where the only effect of such patent is to anticipate the patented invention. *American Saddle Co. v. Hogg.* 353
14. The case of *Vance v. Campbell et al.* decides only that no notice is necessary in order to justify the admission of evidence for the purpose of showing the state of the art in respect of improvements existing, at the date of the plaintiff's invention, in the class of articles to which it belongs. *Ib.* 353
15. It is irregular, in a suit in equity, to swear a person to an affidavit entitled in the suit, before the bill has been filed. *Baldwin v. Bernard.* 442
16. An affidavit may properly be taken before the filing of the bill, but it must not be entitled in the suit. *Ib.* 442
17. The bill having alleged that the defendant was a resident of New Jersey, in order to confer jurisdiction, it should appear affirmatively in the marshal's return that the subpoena was served on the defendant within the district in which the suit was brought. *Thayer v. Wales.* 448
18. The defendant having appeared by attorney, and having filed his plea to the jurisdiction by attorney, and not in person, this fact must be deemed an admission that the court has jurisdiction and a submission thereto. *Ib.* 448
19. A special appearance having been entered by the clerk upon the order-book, at the request of the defendants' attorney, without leave of the court: *Held*, that such an appearance was an admission of jurisdiction. *Ib.* 448
20. Where the defendants gave the name of certain mining establishments in a specified county as the places where the prior use of the invention had taken place: *Held*, that they had fairly supplied the complainants with the means of verifying their proofs, and had filled the measure of their legal duty. *Smith v. Franer.* 543
21. The point that a cause of action arose in the Northern District of New York, so as not to be cognizable by the Circuit Court for the Southern District of New York, may be voluntarily waived by a defendant, and is waived where, in a suit in equity, it is not raised in the answer. *Black v. Thorne.* 550
22. A patent was granted to W. in 1867 (applied for in 1865), with a claim identical with that contained in a patent granted in 1864 to M. In a suit in equity, brought by W., against M., for infringing such claim, the answer

 Prior Invention—Prior Publication.

of M. insisted on the validity of such claim in the patent to M. : *Held*, that M. could not, on the hearing, take the ground that the claim of the patent to W. did not claim patentable subject-matter. *Russell & Erwin Manufacturing Co. v. Mallory*.

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See ABANDONMENT, 6, 15; ANNULING PATENT; ASSIGNMENT, 20; CLAIM, 3; COSTS; DAMAGES; EQUITY; ESTOPPEL; EVIDENCE, 4; INFRINGEMENT, 6, 11, 34; INJUNCTION; PARTIES; PATENT OFFICE PRACTICE, 2; PLEADING; REHEARING; REISSUE, 1, 2; RES ADJUDICATA.

PRIOR INVENTION.

1. A machine which has no useful capacity for the performance of the function of a patented machine, and which stops short of that function, does not anticipate the patented contrivance, although it may be a near approach to it, and may have been very suggestive to an ingenious mind already conversant with the art. *Waterbury Brass Co. v. Miller*.

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PRIOR PUBLICATION.

1. In 1861, a description and drawing were published in a printed publication, in England. From those, the United States, in 1863, caused to be constructed and placed on a vessel, armor like that claimed in the patent of Heaton, one of such drawings being practically the same thing as the armor placed on such vessel. Heaton conceived the idea of his armor in 1856. In 1858, he experimented, by firing a pistol at small pieces of wood and iron. He made no experiments from the forepart of 1859 till the latter part of 1861, when he began to make a model of a war vessel, which he completed early in 1862. The first trial he made with real armor was in March, 1863 : *Held*, that Heaton did not make his invention before the date of the English publication. *Webb v. Quintard*.
2. A printed publication is, by sections 6, 7, and 15, of the act of July 4, 1836 (5 U. S. Stat. at Large, 119, 123), put on the same footing with a patent taken out at the time of the publication ; and, regarding the English publication as a patent, it is not unjustly obtained for that which had before been invented by Heaton, who was using reasonable diligence in adapting and perfecting it. *Ib.*
3. Heaton did not make his invention until he made his model, and he did not begin to make that until after the English publication had been made. *Ib.*
4. A previous conception of the possibility of accomplishing what the English publication makes known, and some experiments with reference to it, was not enough. There must have been a reduction of the idea to practice, and an embodiment of it in some distinct form. *Ib.*

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 Prior Use—Public Use.

5. To anticipate an invention by a prior publication under the patent law, it is necessary that there shall be, first, a description of the alleged invention; second, that it shall be contained in a work of a public character, and intended for the public; and, third, that this work was made accessible to the public, by publication, before the discovery of the invention by the patentee. *Reeves v. Keystone Bridge Co.* 456
6. While the intended circulation of a book of a public nature may be presumed from its being put into print, it does not follow that a manufacturer's catalogue was made accessible to the public as soon as it was printed, or that it was actually published at all. The fact of publication must, therefore, be proved by evidence independent of the imprint. *Id.* 456
7. Whether an illustration by drawing, unaccompanied with verbal description, is such a prior description as would defeat a patent, within the intent of the clause of the statute relating thereto, may well be denied on authority of *Seymour v. Osborne*, 11 Wall. 516. *Id.* 456

PRIOR USE.

See EVIDENCE, 6; INVENTION, 10; NOVELTY, 2; PUBLIC USE, 1, 2, 4.

PROCESS.

See INFRINGEMENT, 24, 27; PARTICULAR PATENTS, 133.

PRODUCT.

See CONSTRUCTION OF PATENT, 11; INVENTION, 2, 3, 5.

PROFITS.

See DAMAGES.

PUBLIC USE.

1. The fact that an invention was in public use and on sale, with the consent and allowance of the inventor, more than two years before his application for a patent, renders the patent invalid, however great the hindrances to the application, and whether caused by the want of pecuniary means, or other misfortune. *Sisson v. Gilberts.* 109
2. The public use, in this case, held not to have been experimental, the inventor having himself manufactured and sold machines containing the invention, through several years, and having allowed such machines to be used thence onward, for six more years, before applying for his patent. *Id.* 109

Rehearing.

3. What constitutes an "allowance" by an inventor, of a public use of his invention, although there are no words of consent, his consent and allowance being inferred from acquiescence. *Ib.* 109
4. The public use, for more than two years before the application, which renders a patent void, may be a public use by the inventor himself of a single machine. *M'Millin v. Barclay.* 189
5. The patentee completed his invention in 1855, and placed it on a steamboat which he owned, and used it as long as the boat remained under his control. He applied, in April, 1865, for a patent, which was granted in February, 1866: *Held*, that the patent was void. *Ib.* 189
6. During two years before he applies for a patent, an inventor may publicly sell and use his invention, without any presumption of abandonment. *Ib.* 189
7. As to public use of an invention for more than two years prior to the application for a patent, the presumption is in favor of the patent, especially when the record shows that the patent has been granted to the real inventor and the principal inventor in the class of machines to which the invention relates. *Brown v. Whittemore.* 524
8. As, by express statute enactment, an inventor may have two years of trial in the public markets, putting his invention into use and on sale, there is no reason to conclude that he may not have the like period, at least, within which to offer his right, as inventor, to the examination of others, or to seek a purchaser, and still be entitled to his patent. *Russell & Erwin Manufacturing Co. v. Mallory.* 632
9. An inventor is not required to put his invention into public use before he applies for his patent. *Ib.* 632
10. Mere public use and sale of an invention before a patent for it is applied for, does not invalidate the patent, unless the public use and sale were with the consent and allowance of the inventor. *Ib.* 632

See COSTS, 1; EXPERIMENT, 1.

REHEARING.

1. After a decision on final hearing, it having been discovered that the specification of a prior foreign patent, relied on in the decision, was not, in fact, the specification of the prior patent, but of a subsequent one, the case was reopened for further proofs and a rehearing. *Baldwin v. Schultz.* 75
2. The fact that the defendant, in a suit in equity, for the infringement of a patent, did not have proper expert testimony, on the final hearing, is no ground for granting a rehearing, where no application was made in the premises before the final hearing, and no excuse is shown. *Hitchcock v. Tremaine.* 537

Reissue.

3. The fact that, since the first hearing, the defendant has discovered that a patent earlier than the plaintiffs', and which was in evidence on such hearing, has been twice reissued, the last time since such hearing, is no ground for granting a rehearing. *Ib.* 537
4. On an application after a hearing in a patent suit, to put in alleged newly discovered evidence, it must be shown that the party could not, with reasonable diligence, have obtained such evidence prior to such hearing. *Ib.* 537

REISSUE.

1. In the absence of fraud, the defense that the reissued letters patent are not for the same invention as that described in the original letters patent, is not open to one charged as an infringer, except in cases where the fact appears by a comparison of the two patents, as a matter of law. *Graham v. Mason.* 1
2. Where the commissioner accepts the surrender of a patent, and grants a new one, his decision, in the premises, in a suit for infringement, is final and conclusive, unless it is apparent upon the face of the reissued patent, as a matter of legal construction, that it is not for the same invention as that secured in the original letters patent. *Carew v. Boston Elastic Fabric Co.* 90
3. Under the authority of the commissioner to grant a reissued patent, he may allow the patentee to redescribe his invention, and to include in the description and claims of the patent not only what was well described before, but whatever else was suggested or substantially indicated in the specification, drawings, or Patent Office model, which properly belonged to the invention as actually made or perfected. *Ib.* 90
4. Interpolations of new features, ingredients, or devices, which were neither described, suggested, nor indicated in the original patent or Patent Office model, are not allowed in a reissue. *Ib.* 90
5. Where an original patent is reissued in divisions, such divisions are to be treated as but one patent with several claims. *Pennsylvania Salt Mfg. Co. v. Thomas.* 148
6. Discrepancy in the titles and variations in the description and claims of the original and reissued patents will not avoid the latter. That can only result from diversity of subject-matter. *Ib.* 148
7. Where the original specification distinctly indicated caustic alkali, prepared for general domestic use, as the invention of the patentee, but did not technically claim it: *Held*, that this was the proper subject of amendment *Ib.* 148
8. *Scndle*, that where the original patent described a composition for printers' inking-rollers as consisting of glue, glycerine, castor oil, or any of the fixed oils, borax, ammonia, and sugar, mixed in certain approximately-specified proportions, and claimed "the use of the ingredients specified, when combined to form a composition for the manufacture of printers' inking-rollers,"

Res Adjudicata.

- a claim upon reissue for "combining glue, glycerine, and sugar, or any other analogous saccharine matter, to form a new and useful composition of matter for various purposes," can not, if construed in its broadest significance, be sustained. *Francis v. Mellor.* 153
9. Burk, having obtained in France, October 29, 1856, a patent for his invention, it was proper to correct, by a reissue, the error in granting the patent in the United States otherwise than for fourteen years from that date. *Buerk v. Valentine.* 366
10. A reissued patent can not be sustained by extrinsic proof that the patentee was the inventor of all that is claimed in it, if what is so claimed was not shown or suggested in the original specification, drawings, or model. *Sarven v. Hall.* 415
11. Defects or insufficiencies in the description of anything which is found in any form in the original specification, drawings, or model, may be supplied in the reissue. *Ib.* 415
12. If there is nothing in a prior original patent to affect the validity of the patent sued on, no reissue of such prior patent made subsequently to the date of the patent sued on, can affect such validity. *Hitchcock v. Tremaine.* 537
13. As the model and drawings of the reissue are the same as those of the original patent, and show such a mingling or mixing chamber as is claimed in such first claim, and such an arrangement of parts as, when used according to the directions of the patentee, with the fuel named, will produce the result described in said claim, and as the specification of the original patent gives substantially the same directions for producing such results as are given in the reissue, such claim is valid. *Black v. Thorne.* 550
14. Although, in the reissue, the patentee disclaims the arrangement of a series of fire-chambers to communicate with one common flue, irrespective of the purpose for which and the manner in which the arrangement is employed, he can lawfully claim the arrangement which he uses, when used for the purpose for which he employs it, and can lawfully claim it when used in the manner in which he employs it. *Ib.* 550
15. In the reissue, under section 53 of the act of July 8, 1870 (16 U. S. Stat. at Large, 205), of a chemical patent, it is necessary to its validity that the subject-matter of it should be found described in the original patent. *Tarr v. Webb.* 593

See ADMINISTRATOR, 1; CONSTRUCTION OF PATENT, 6; PARTICULAR PATENTS, 46.

RES ADJUDICATA.

1. While the decision of the Commissioner of Patents, extending the patent, is not entitled, upon the question of novelty, to the force of *res adjudicata*, yet it is a determination entitled to the highest respect of the courts, and should not be reversed except upon the most satisfactory proof. *Cook v. Ernest.* 396

Sale of Machine—Utility.

SALE OF MACHINE.

See LICENSE, 3, 4; PUBLIC USE, 6, 10.

SALE OF PATENT.

See ASSIGNMENT, 16, 17.

SCIRE FACIAS.

See EQUITY, 4.

SPECIFICATION.

1. The specification must be in such full, clear, and exact terms as to enable any one skilled in the art to which it appertains to compound and use it without making any experiments of his own. *Jenkins v. Walker.* 347
2. The definiteness of a specification may vary with the subject. Addressed to those skilled in the art, it may leave something to their skill in applying it, but it should not mislead them; and it may be sufficient, though the unskilled may not be able to gather from it how to use the invention. *Mowry v. Whitney.* 494

See CONSTRUCTION OF PATENT, 8, 9, 12, 15, 16, 17; INVENTION, 3; MODEL; PARTICULAR PATENTS, 149.

STATE OF THE ART.

See PRACTICE, 14.

SUBSTANTIAL IDENTITY.

1. While characteristic resemblance is preserved between two compositions of matter, they may, perhaps, be considered as identical, within the meaning of the patent law, although one of them may not contain some of the constituents of the other, which are not necessary to impart to it its peculiar attributes. *Francis v. Mellor.* 153

See EQUIVALENT; INFRINGEMENT; NOVELTY, 4, 6; PARTICULAR PATENTS, 30, 152.

TERMS OF ART.

See CONSTRUCTION OF PATENT, 19.

UTILITY.

1. The patentability of an alleged invention is, in many cases, most satisfactorily shown by its utility. *Pennsylvania Salt Mfg. Co. v. Thomas.* 148
2. The fact that other devices, superior to that covered by complainants' patent, taken as a whole, have been invented, and have driven the latter out of use, does not prove or tend to prove that such invention lacks utility, as the law uses that word. *Cook v. Ernest.* 396

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